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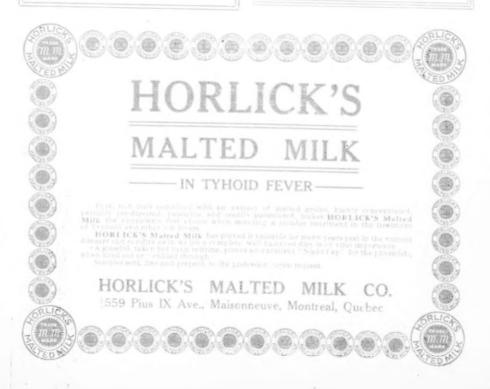


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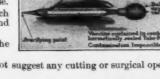
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### The Pathos of the Germans.

No doubt in our character as neutrals we ought to be as sorry as we can for everybody involved in the great war, without stopping to be over-nice in apportioning blame; sorry for the Kaiser because he has been caught in his own machinery; sorry for France and England and Germany because, being considerably civilized, they should not be under the terrible cost and inconvenience of battling with one another; sorry for the Serbs, and for Austria because she is such a back number; sorry most of all for the gallant Belgians who have suffered so much, and least perhaps for Russia whom nothing can hurt very deep and whose chances of gain are biggest in proportion to what she risks.

And coming to particulars, we ought especially to be sorry for the Germans. As we see them to-day they are a pathetic people. Germany has set up to be the bully of Europe, and a bully, when one has got over being mad at him, is always pathetic. Bullies are always stupid. At the bottom of their proceedings is inability to understand something very important to be understood. They are people who, seeing no chance to get what they want by favor, are constantly tempted to try to get what they can by force.

That seems to be the case with the Germans. They have enormous merit of a most substantial kind, and it has brought them huge and well earned gains; but when it comes to getting anything by favor there is nothing coming to them. In his present stage of development, the German is the fat man of Europe whom nobody loves. Individual Germans are beloved, of course, but the typical German not. A writer in the Outlook, an American of German parentage, writing in defence of his brethren, explains the universal distaste for Germans in Europe by saying:

"The average German, whom the foreigner sees, is aggressive, self-assertive, loud in his manner and talk, inconsiderate, petty, pompous, dictatorial, without humor; in a word, bumptious. He has, in many cases, exceedingly bad table man-

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### Offical Calendar

#### December:

- 1. Last day for appointment of School Auditors by Public and Separate School Trustees. (On or before 1st December).

  Township Clerk to furnish to the School Inspector information of average assessment, etc., of each School Section. (On or before 1st December).

  Legislative grant payable to Trustees of Rural Public and Separate Schools in Districts, second instalment. (On or before 1st December). 1st December).
- 8. Returning officers named by resolution of Public School Board. (Before 2nd Wednesday in December).
  Last day for Public and Separate School Trustees to fix places for nomination of Trustees. (Before 2nd Wednesday in December). cember).
- 13. Local assessment to be paid Separate School Trustees. (Not later than 14th December).
- 14. Model School Final examination begins.
- 15. County Council to pay \$500 to High School and Continuation School where Agricultural Department is established. (On or before 15th December), Municipal Councils to pay Municipal Grants to High School Boards, (On or Grants to High School before 15th December).
- 17. Model Schools close.
- 18. Normal Schools (first term) close.
- 22. High, Continuation, Public and Separate Schools close. (End 22nd December).
- 25. Christmas Day (Friday).

  New Schools, alterations of School boundaries and consolidated Schools go into operation or take effect. (Not to take effect before 25th December).
- fect before 25th December).

  30. Annual meetings of supporters of Public and Separate Schools. (Last Wednesday in December).

  High School Treasurers to receive all moneys collected for permanent improvements. (On or before 31st December). Protestant Separate School Trustees to transmit to County Inspectors names and attendance during the last preceding six months. (On or before 31st December). Auditors' Reports of cities, towns and incorporated villages to be published by trustees. (At end of year). Financial statement, report of attendance, etc., from Teachers' Institutes. (Cir. No. 12). (Note later than 31st December). Report on Inspectoral visits from Separate, County and District Inspectors, due. (Not later than December 31st).

ners and an almost gross enjoyment of his food; and he talks about hi sailments and his underwear. His attitude toward women, moreover, is likely to be over-gallant if he knows them a little and not too well, and discourteous or even insolent if he is married to them or does not know them at all. He is at his worst at the time when he is most an exhibition when he is on his travels or helping other people to travel, as ticket-chopper or customs official."

This German apologist knows that underneath bad manners which the German does not know are bad are some of the greatest and best of human qualities, but casual observers don't like the manners and naturally don't like the man, so Germans, apparently, have been taught that every hand in Europe is against them and that they must always expect to fight for what they get and thrash all comers. Hence militarism and all the troubles that follow it.

A little while ago Engish manners were just as ill thought of, and doubtless with just as good reason, as German manners are now; but English manners seem to have improved. American tourist manners do not edify all foreign observers, but bad manners in our tourists do not have political consequences. Refinement usually comes with prosperity, and has come abundantly to Germans in the United States. German prosperity at home has mostly come within the last 30 years, and probably it would in time have brought manners in its train, and possibly as Germans grew to be more generally acceptable they would have emerged from this terrible idea that they must thrash all the world in order to get their place in the sun.

When prosperity will resume its refining course among the Germans in Germany heaven knows, but is not their situation sincerely pathetic? Not only are the manners of ordinary Germans open to such regretful criticism as above quoted, but the example set to ordinary Germans by their superiors in rank and power seems far from helpful. Prof. Newbold, of Philadelphia, who fled through Germany the other day, is quoted in the papers as saying:

"The war was caused by a little group of military men who aim at the conquest of the world. They are the most offensive people I ever met. They are responsible to no one for their actions and they lit the fuse."

But as to the mass of ordinary Germans whom he saw, he says:

"I never before saw such despair and misery written on the faces of people as I saw in Germany when war was declared. They felt and looked as though the end of the world had come."

Be sorry for the Germans. They are in for a terrible time. At the bottom they are good and extremely able and valuable people, but they have been tied up to a wrong conception of what rules our modern world. If the war rids them of the domination of "military men who aim at the conquest of the world," there is no reason why they should not grow in favor; but no country that all the others fear can hope to be popular in a modern world.—E. S. Martin in Life.

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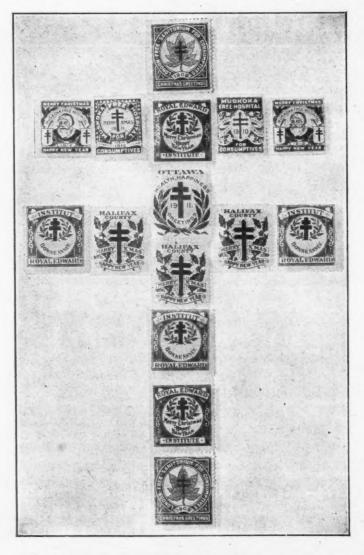
All Grocers



ALBERT D. WATSON

When the blood of our deathless heroes
Has filtered away in the sand,
And the kindly earth to her aching breast
Has folded them all in passionless rest
And there's weeping in every land,
Shall a wild fool-world, blindly reeling,
Go blundering on through the mist,
And staggering down the roads of time
O'erwhelming the music of heaven sublime
With the threat of a mailed fist?

When mothers, war-widowed, are wailing,
With a deep despair in their tears,
Shall we see the thing we have fondly nursed,
Ambition, the dragon-monster accursed,
Still shaking his brand down the years?
Let war-drums be broken forever,
The bannered millions dimissed,
Let all the lands of the earth unite
To drive from the world with invincible might
The threat of the mailed fist.



Canadian Christmas stamps, from the sale of which thousands of dollars have been raised for the Anti-Tuberculosis Campaign.

### Che

# Public Kealth Journal

TORONTO, CANADA, DECEMBER 1914

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NO.112

## THE USE OF THE FERMENTATION TEST IN MILK EXAMINATION

By JOSEPH RACE, F.I.C.

City Bacteriologist, Ottawa

THIS test is performed by incubating the sample in sterile vessels and observing the chemical and physical changes that take place.

The earliest experimental work in this connection was probably that of Walter, cantonal chemist at Soleure. This observer kept milk at 98°F., and stated that "milk if good, will not curdle or undergo abnormal fermentation in 10 to 12 hours." A special apparatus was devised for this purpose by Schaffer (Landw. Jahrbuch du Schweiz Vol. 7, p. 72), who recorded the amount of gas evolved at 100°F, from a definite volume of milk. He found that good milk formed no gas and remained fluid after 12 hours. This test was chiefly used in connection with the suitability of milk for cheese manufacture; milks that produced "heaving" were detected by this test.

The Wisconsin curd test (Wisc. Expt. Stat. annual reports for 1895 and 1898) was also evolved for cheese manufacture and differs from the Swiss tests given above in the use of rennet for the production of a definite curd which is pressed and afterwards set aside for observation.

The Gerber fermentation test consists in incubating tubes of milk at 104° to 106°F. for 6 hours and then observing the odor, taste and appearance for abnormal qualities. The heating is then continued for a second six hour period and any abnormal coagulations, such as gas holes, are then noted. Gerbet states that coagulation in less than 12 hours is abnormal, and that milk that does not curdle in 24 to 48 hours is open to suspicion regarding preservatives.

According to Jensen (Jensen's Milk Hygiene), the milk is heated to 30° to 35°C. for 8 to 12 hours and examined: replaced for a further period and again examined. After the second period he found that the clean samples are sour and curdled and form a homogeneous coagulum without much separation of curd and gas formation. Frequently gas bubbles have split the coagulum and considerable fluid has separated. This change, he states, does not necessarily signify that the milk was particularly rich in bacteria of putrefaction. If curdling is accompanied by an offensive odor or if the coagulum is peptonized, the presence of putrefactive bacteria is inferred. He continues, "by boiling milk a short time and then incubating. only spore formers develop, and as these are not checked by the lactic bacteria, they increase rapidly and cause the milk to curdle by the action of ferments. Pasteurized milk does not sour, but no precipitate conclusions should be drawn from the results of this test."

Peter (Jahresber. d. Molkereischule Rutti 1905-1906, p. 210), Dugelli (Centralbl. Bakt. II. Abt. Bd. 18 pp. 37, 224, 439), and Klein (Amer. Vet. Review, Oct. 1912, p. 25) have used this test for milk examination and find that it gives the prevailing types of micro organisms with a considerable degree of accuracy. A combination of the fermentation test with the methylene blue reduction test has been recommended by Lohnis and Schroeter (Centralbl. f. Bakt. II. Abt. Bd. 32, 1912, p. 181), and by Fred and Chappelean (Virginia Agr. Expt. Stat., 1911-1912, p. 233)

In the experimental work conducted with this method, the samples were transferred to sterile tubes plugged with absorbent cotton and incubated at 98°F. for 20 to 24 hours. As all routine milk samples are not sometimes received until 12 o'clock noon it was found impossible in routine work to examine the specimens after an eight or ten hour period. A comparison is made in the accompanying tables between the results of the fermentation tests and the total and B. Coli content of bacteria. The total count was made on nutrient agar, 48 hours at blood heat and the B. Coli count on rebipelagar, 24 hours at blood heat. In recording the results of the fermentation tests the classification of Dugelli (vide supra) was followed with but slight modifications. Dugelli classification together with the bacterial flora, which he states they represent, is as follows:

### Types of Curd.

Type A.

**Liquid**—The sample does not show any marked change except perhaps a slight deposit on the bottom of the tube.

1. Completely liquid, sweet or sour taste.

2. Somewhat coagulated at the bottom or on the walls.

3. A slight ring of curd under the cream, but otherwise liquid and sour.

4. Completely liquid or with a slight separation of the solid components of the curd. Taste strongly acid or bitter acid.

Type B.

Gelatinous of Jelly-like—The sample is more or less curdled and the casein is united into a gelatin-like mass without any marked separation of the curd.

1. A beautiful smooth gelatinous mass without curd separation and a pure acid flavor.

2. Smooth but some gas bubbles and furrows.

Generally smooth, but with curd separation and marked by gas bubbles and furrows.

 Generally smooth, with curd separation, but with numerous gas bubbles and furrows.

Type C.

Granular—The milk curdles, but the curd instead of being smooth consists of many small grains. Between the more or less fine curd grains, creamy cheese like particles may be found.

1. Curd only partly granular and partly gelatin-like and with little cheese sep-

aration.

2. Curd of fine granular structure and uniformly divided so that the curd looks white.

Curd shows a marked separation with mostly large grains.

 Large granules and complete coagulation, with a creamy deposit.

Type D.

Cheese Curd—The casein is flocculent or in clump, and is attached to the sides of the vessel. The curd is more or less completely separated from the whey.

Casein is a soft united mass. The curd is greenish in color and slightly acid.
 Casein is a firm mass, curd green,

and slightly acid.

3. Casein pulled apart and divided, a greenish white, strongly acid curd.

4. Casein entirely separated and attached to the sides of the tube. A white eurd, strongly acid.

Type E.

Gaseous—The tube is well marked with gas bubbles.

1. Cream filled with bubbles.

2. Cream and curd filled with bubbles.

3. Bubbles so numerous that the curd

3. Bubbles so numerous that the curd floats on the whey and forms a raised surface.

4. The gas development is so pronounced that the curd is forced upwards in the tube, often forcing out the stopper.

Bacteria Flora, as indicated by Fermentation Test. Dugelli.

### Type A.

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Bacteria present in very small numbers. Cocci predominate with few lactic acid, coli and aerogenes organisms.

### Type B.

Lactic acid in great numbers, few if any coli and aerogenes organisms, some cocci and fluorescent bacteria. Gas formation indicates the presence of coli, aerogenes, or butyric organisms.

### Type C.

Lactic, coli and aerogenes bacteria predominate with many cocci.

### Type D.

Lactic acid mixed with coli and aerogenes organisms.

### Type E.

Coli and aerogenes organisms abound and much gas is formed, also lactic bacteria, cocci and B. vulgatus.

In the preliminary series of samples it was found that type E was by no means a distinct group and that it could be eliminated. The gas formers which predominate in this type may be added to types B and D as they are merely accentuated types of these two groups.

A fifth subdivision was added to group D to designate those fermentations in which the curd and whey are entirely separated and marked evidence of gas formation is present. The modified classification thus becomes.

### Type A.

**Liquid**—The sample does not show any marked change except perhaps a slight deposit on the bottom of the tube.

1. Completely liquid, sweet or sour

2. Somewhat coagulated at the bottom or on the walls.

3. A slight ring of curd under the cream, but otherwise liquid and sour.

4. Completely liquid or with a slight separation of the solid components of the curd. Taste strongly acid or bitter acid.

#### Type B.

Gelantinous or Jelly-like—The mass is more or less curdled and the casein is united into a gelatin-like mass without any marked separation of the curd.

 A beautiful smooth gelantinous mass without curd separation and a pure acid flavor.

- 2. Smooth, but with some gas bubbles and furrows.
- Generally smooth, but with curd separation, and marked by gas bubbles and furrows.
- 4. Generally smooth with curd separation, but with numerous gas bubbles and furrows.

### Type C.

Granular—The milk curdles, but the curd instead of being smooth consists of many small grains. Between the more or less fine grains, creamy cheese-like particles may be found.

- Curd only partly granular and partly gelatin-like and with little cheese separation.
- Curd of fine granular structure and uniformly divided so that the curd looks white.
- 3. Curd shows a marked separation, with mostly large grains.
- 4. Large granules and complete coagulation, with a creamy deposit.

### Type D.

Cheese Curd—The case in is flocculent or in clump and is attached to the sides of the vessel. The curd is more or less completely separated from the whey.

- 1. Casein is a soft united mass. The curd is greenish and slightly acid.
- 2. Casein a firm mass, curd green in color and slightly acid.
- 3. Casein pulled apart and divided. A greenish white curd strongly acid.
- Casein entirely separated and attached to sides of tube. Curd white and strongly acid.
- 5. Curd and whey entirely separated. Gas formation very pronounced.

In the majority of samples, the type of fermentation falls within a few of these numerous subdivisions, the most usual types being A1, A2, B1, B2, B3, D4, and D5.

The results obtained with 787 samples are recorded in the following tables. These samples were ordinary routine milks submitted for examination, the source being unknown until all the results were completed.

Average monthly results showing relation of bacterial counts to type of fermentation:

### ROUTINE MILK SAMPLES.

Type of fermentation.	Bacteria pe ccm. agar.	r B. Coli per ccm.	Percentage of samples.		li limits. Maximum
March, 1914—					,
A1	. 45,000	1	12.3	0	8
A2	47,000	2	8.7	0	17
B1	. 105,000	5	30.4	0	53
B2		25	23.2	0	120
В3	. 111,000	62	10.1	3	150
C1	. 32,000	35	1.5	0	35
D4	. 93,000	4	13.8	0	20
	,				
April, 1914—	10.000		2.2	0	
A1		1	6.2	0	4
A2		1	3.3	0	4
A4		70	1.0	70	70
B1	. 64,000	6	29.6	0	110
B2	. 226,000	132	32.6	0	2,000
B3	. 259,000	633	13.2	0	3,000
C1	. 47,000	0	0.5	0	0
D4	. 53,000	6	6.5	0	34
D5	. 216,000	266	7.4	4	2,000
May, 1914—					
A1	. 68,000	9	2.4	0	23
A2	. 38,000	9	2.8	0	29
B1	. 112,000	28	16.0	0	320
B2	. 218,000	194	32.9	0	2,400
В3	. 346,000	650	26.8	5	4,000
D4	. 140,000	19	9.4	0	160
D5	. 400,000	614	9.6	0	3,000
June, 1914—					
A1	. 59,000	1	1.0	0	2
A2		17	2.9	0	60
B1		72	29.0	0	500
B2	. 285,000	895	37.7	1	18.000
B3	. 498,000	5,390	14.0	12	40,000
D4	. 87,000	62	7.7	0	540
D5	. 421,000	8,600	7.7	50	70,000
Total samples exa		0,000	1.1	00	10,000
rotar samples exa	mineu, ror.				

### PASTEURIZED MILK.

Average monthly results showing relation of 'bacterial counts to type of fermentation:

Type of fermentation.	Bacteria per ccm. agar.			B. Co Minimum.	li limits. Maximum.
March, 1914—				,	
A1	31,900	0.3	23.2	0	1
A2	68,000	0.0	15.4	0	0
B1	49,000	0.2	53.6	0	1
B2			Nil		
B3			Nil		
D4		5	7.8	5	5
D5		7	Nil		

April, 1914—					
A1	10,600	0	18.2	0	0
A2	83,000	1	4.5	0	0
D1		_		-	_
B1	26,000	2.5	59.1	0	24
B2			Nil		
B3			Nil		
D4	28,000	5	13.6	1	15
D5	160,000	78	4.6	78	78
May, 1914—					
A1	6,400	1	5.0	1	1
A2	36,800	1	5.0	1	1
B1	14,000	3	35.0	0	10
B2	50,000	64	35.0	0	380
B3	00,000	OI	Nil	U	900
D4	21,000	20	20.0	4	52
	21,000	20	20.0	4	32
June, 1914—					
A1			Nil		
A2	22,000	37	6.1	15	60
B1	27,500	37	30.3	0	184
B2	71,600	20	60.6	0	71
B3	,		Nil		**
D4	16,000	1	3.0	1	1
	10,000	.1.	Nil	1	. 1
D5			IVII		

Total samples examined, 98.

### CERTIFIED MILK.

Average monthly results showing relation of bacterial counts to type of fermentation:

Type of fermentation.	Bacteria per	B. Coli	Percentage of samples.		oli limits. Maximum.
March, 1914-					
A1	. 2,300	0	10.0	0	0 -
B1		1	40.0	0	4
B2	. 6,000	2	30.0	0	4
В3		4	10.0	4	4
D4		2	10.0	2	2
D5		_	Nil	_	_
April, 1914—					
A1	. 21,000	2	21.0	0	6
B1	. 7,000	2	36.8	0	7
B2		5	31.6	0	18
В3		380	5.3	380	380
D4			Nil		
D5		360	5.3	360	360
May, 1914—					
A1			Nil		
A2	. 13,000	10	10.0	3	17
B1		29	20.0	. 0	98
B2		224	40.0	3	1,600
ВЗ		36	10.0	16	58
D4		6	10.0	4	9

D5	18,000	30	10.0	17	44
June, 1914—					
A1			Nil		
A2	40,000	15	5.0	15	15
B1	41,400	15	30.0	2	39
B2	39,900	20	40.0	1	40
В3	40,000	30	5.0		20
D4	90,000	53	15.0	30	100
D5	98,000	50	5.0		50

Total samples examined 69.

These results show that the type of fermentation is determined by a combination of factors which vary in different samples. The chief factors are the total and relative numbers of the various groups of organisms which constitute the bacterial flora.

When the total bacteria are very low the fermentation is usually of the A type, i.e., very little visible alteration takes place in the physical appearance of the sample, and a smooth acid flavor is produced. The acid producers are so few in numbers as to be unable to produce, under the incubator conditions, sufficient acid to coagulate the caseinogen. This is the distinguishing feature of type A. In types B, C and D there is a distinct coagulation, but the character varies in each group according to the organisms associated with the acid producers. The acid producers in each case produce their effect, and if the ratio of acid formers to gas formers is large little or no evidence of gas formation is observed. As this ratio decreases furrows become evident and numerous gas bubbles are found enclosed in the curd, whilst in extreme cases the gas formation is so marked as to force the cream layer to the top of the tube. As any gas formed previous to the production of a firm curd would be lost without leaving any evidence, it follows that any gas observed must have been produced after coagulation and in a medium of increased acidity. To effect this the proportion of colon organisms must be considerable, as otherwise their development would be retarded by the metabolic products of the acid group. Very many samples; however, were observed to produce gas bubbles in the fermentation test, and yet contained originally less than one B. Coli per ccm. In these cases either the small numbers of B. Coli must have increased very rapidly in proportion to the

acid formers to be of an acid resisting type. At ordinary temperatures (50° to 60°F.), the colon content usually continues to increase until about 0.7 per cent. of acidity, calculated as lactic acid, is produced.

The tables show that the same type of fermentation is produced by very widely differing colon contents, and it is therefore impossible to form a definite opinion regarding the B. Coli content from the appearance of the fermentation test. The A type is almost invariably produced by milk low in B. Coli, whilst D5 points to excessive contamination with this group, but with regard to the intermediate types, which the majority of market milks produce, no definite conclusions can be deduced. The same remarks apply regarding the relation of the total bacterial count to the type of fermentation, and under these circumstances it is difficult to attach much value to this test. Some observers have a high opinion of this test, because it is supposed to yield evidence as to bacterial flora and thus enable deductions to be made as to the conditions under which the milk was produced and its subsequent treatment, but the results tabulated do not substantiate this claim.

In addition to its suppositious ability of detecting faecal contamination, claims have been advanced for the test for the detection of peptonizing bacteria. Ayers and Johnson (U.S.A. Dept. Agr. Bull. 126 and 161) show that peptonizing bacteria form a considerable proportion of the total bacteria in every sample of milk, but as peptonized curds are very rare the peptonizing group rarely predominates. In the series of 787 samples examined not a single peptonized curd was observed. Information regarding the peptonizing bacteria could be much more definitely secured by

the use of casein agar or nutrient lactose gelatine.

The conditions of the test, viz., incubation, at blood heat, are artificial, as milk is never, under ordinary circumstances, kept at this temperature, and it is not logically sound to assume that the biological and chemical changes are the same at different temperatures, as a change of temperature always favors the growth of one or more groups in preference to others.

The fermentation tests of the pasteurized milks were normal in every respect; not a single sample was received that showed

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a peptonized curd or any evidence of putrefaction. Ayers and Johnson (vide supra) show that when milk is pasteurized at 145°F. the percentage of acid coagulating and acid organisms is increased at the expense of the alkali and peptonizing groups. Every sample of pasteurized milk that has been tested in these laboratories has soured perfectly normally.

After a careful consideration of the results, the author has concluded that the fermentation test is of little practical value in routine milk examination and has consequently abandoned it.

### BRAVO, VOLUNTEERS.

(Sung to Scots Wha Hae).

By Charles Sangster.
See the border ruffians swarm,
See our brave defenders arm,
See our brave defenders arm,
Bravo, Volunteers.
Striplings rise like men to-day,
Ripe for deeds that live for aye,
Battle brunt or lively fray,
Bravo, Volunteers.

Men like you are England's boast, Warning foemen from her coast, Warning foemen from her coast, Bravo, Volunteers. Here, as there, we meet as one, High and lowly, sire and son, When a brave deed must be done, Bravo, Volunteers.

Robber hands and pirate feet,
This the crew you're called to meet,
This the crew you're called to meet,
Bravo, Volunteers.
Let them knock, fling wide the door,
Strew the battles' threshing floor,
Right is might for ever more,
Bravo, Volunteers.

Shoulder then to shoulder press,
Blow for blow and nothing less,
Blow for blow and nothing less,
Bravo, Volunteers.
Brave hearts burn with fervid fire,
All the land is roused to ire,
Strike! the ruffian hordes retire,
Bravo, Volunteers.

# MEDICAL INSPECTION OF SCHOOLS IN EDMONTON, ALBERTA

By T. H. WHITELAW, B.A., M.B., M.O.H.

HILE there may exist different opinions as to the best methods to be adopted in carrying out the medical inspection of school children, and while the best results may not always be obtained from the methods followed in any given locality, the benefits to the rising generation resulting from this innovation in school life are so apparent that there can be but one opinion on the question, i.e., that medical inspection of school children has come to stay, and that it is to become an increasingly important factor in obtaining the maximum of mental and physical efficiency for future generations, which after all is the chief duty any State owes its subjects or citizens.

The results already achieved indicate that through medical inspection attention is directed to many defects of sight and hearing, and to unhealthy conditions of mouth, nose and throat, which seriously impair the mental and physical development of our growing youth. Even defects or disease of the heart or other organs may be discovered, which otherwise might be overlooked in a growing child through the ignorance, indifference or carelessness of the parents. Unfortunately, the old type of family physician, who vaccinated the babies, and in general took a personal and almost parental interest in the members of his families from infancy to adult life, is now almost extinct, and the age of patent medicines, osteopathists, electro-therapeutists, chiropractors, Christian Scientists and other irregular practitioners of different types, has succeeded. Systematic medical inspection of school children, carried out by a capable, conscientious and experienced staff, is the only guarantee that each child, with or without the approval of the parents, will be at least once a year subjected to a thorough physical examination, and if defects or disease be found, the existence of which may hitherto have been unknown or considered of trivial import-

ance, the notice to the parents will in the great majority of instances be acted upon, and medical advice or treatment be obtained to remedy defects or cure conditions which, if uncorrected, would greatly impair the future usefulness and value to the community of the child concerned.

In Edmonton, medical inspection was begun in the last term of 1910, when the present Inspector, Dr. D. J. Dunn, gave half time to the work at \$1,500 per year. This was continued till May, 1912, since when Dr. Dunn has given his full time to the inspection, his salary being increased to \$3,500 per annum, with an addition of \$15 per month for travelling expenses.

For the following details of the work carried on in Edmonton I am largely indebted to Dr. Dunn, who has supplied the

There are at present eighteen large permanent schools and fourteen temporary small schools, with an enrolment of something over 8,000 pupils. In April last the number was 7,748. The Separate Schools, with an enrolment of 1,500 pupils, will probably appoint a Medical Inspector to work under Dr. Dunn, beginning this fall.

The number of inspections made in 1911 was 3,408, in 1912 6,236, and in 1913 8,132.

Each child is weighed, measured as to height, and examined for enlarged tonsils, enlarged glands, adenoids, defective teeth and other obvious defects. In the primary grades this is done in the class room, where the little children feel much more at ease in the presence of their teacher. When the pupils are far enough advanced to read printed letters the examinations are conducted in a separate room, and each eye is tested separately at a distance of 15 or 20 feet for defects of vision.

A record of the child's physical condition is made on the physical record card, which provides space for two examinations each year for eight years. The reverse of the card is used for enrolment and attendance record, and remarks as to treatment or something special regarding the pupil. These records are filed in a cabinet provided for the purpose at each school and arranged in classes and in alphabetical order.

### Nurses.

There are two nurses engaged to assist in this work. The schools are equally divided as far as possible between them. They make regular rounds of the class rooms about every three weeks, besides assisting the Medical Inspector in the regular inspection work each day and making out the notices sent to parents During the year 1913, the nurses made between 1,100 and 1,200 home visits. Their hours are from 9 a.m. to 4 p.m., and on Saturday from 9 to 12 a.m.

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Before starting to examine the pupils, the nurse sees that the cards are all in order and that there is a card for each pupil. They take charge of the weighing and vision testing, under the supervision of the Medical Inspector, and at the conclusion make out the list of defective pupils and the notices to parents, which are made out in triplicate, one copy for the nurse, a carbon copy for the Medical Inspector's office, and a card copy for the parents. The office and nurses' copies are for future reference. The nurse files her copy when she ascertains the case has been treated. One copy is filed alphabetically, and the other by number.

In urgent cases the nurse visits the home either the day the inspection is made or the day following, to consult with the parents. In all other cases, after a reasonable time has expired, the nurse again visits the class, and makes enquiries and observations as to what has been done regarding treatment of the cases reported. If no treatment has been given, she visits the home and does all in her power to persuade the parents to follow the advice given. cases where the absolute necessity of treatment is obvious, and the parents, though financially able, refuse or neglect to provide the necessary care and treatment, the matter is at once referred to the Superintendent of Neglected Children for action, and a court summons is issued to the parent or guardian if refusal or neglect to provide necessary medical attention is still persisted in.

When the nurse visits the home in this follow-up work and finds the parents are unable to bear the expense of any operation or other treatment that may be necessary, she makes her report as to the financial and other conditions of the home. The indigent cases are treated by the medical men generally, and through the Children's Shelter, where indigent work is done in the operating room provided.

The eye, ear, nose and throat specialists of the city write prescriptions for glasses free of charge, and, when the parents are unable to pay the small fee required for the glasses, on the recommendation of the Medical Inspector the School Board pays for them. Arrangements are now being made with these specialists, by which a given number of cases will be operated on for adenoids or enlarged tonsils at the city hospitals once or twice per week. A large number of cases have already been treated, but it was stated by the Medical Inspector recently that approximately 600 children were on the waiting list to be treated for such conditions. The details of this work have not yet been completely worked out, but we hope to get it established on a basis which will furnish free treatment to those who, after investigation by the relief officer, are reported to be unable to pay fees, and at the same time protect the medical profession against fraud on the part of those who are able to pay for treatment. Every precaution is being taken to guard against pauperizing the community.

The dentists of the city, too, have entered into this work in a commendable spirit of co-operation. They have agreed to supply workmen, and the School Board are arranging to put in a dental chair and outfit and provide material for the treatment of those unable to pay.

No school treatments are given, but the nurses give the parents individual instruction in personal hygiene when visiting the homes.

On the whole, the work has been well received and appreciated by the public, and the percentage of defects has been reduced by about 10 per cent. in two years.

The success met with, especially in the control of infectious diseases among the pupils, is due to the commendable spirit of co-operation which exists between the

Health Department and the Medical Inspector of Schools, the nurses and teachers. When a case of infectious disease is suspected in a class room, the pupil is excluded, and the Health Department is notified. An investigation is made by the Medical Officer of Health, if it is found no medical man is in attendance. The Chief Health Inspector each day keeps the Medical Inspector of Schools informed as to all new cases of contagious disease developing in the city, and what school, if any, the pupils have been attending from these homes. He also notifies the principal of each school of the cases occurring in his district. No pupils are readmitted to the class room after contagious disease without a certificate from the City Health Department, signed by the Medical Officer of Health. cases where a pupil has been absent from other illness not contagious, or for any other reasons, a certificate from any physician stating that no contagious disease has existed in the home is accepted.

During the last year a very large proportion of our cases of communicable diseases has been from among young adults over school age, and from younger children not attending school. In short, it would appear that children attending school run less risk of acquiring contagious disease than those who remain at home to play on the streets, or young adults who have left school to engage in various occupations.

I have seen threatened epidemics of diphtheria in a particular school cut short through the co-operative work of the two departments and the rigid enforcement of the quarantine regulations. Many cases of infectious disease, where a physician has not been called, would escape detection and quarantine were it not for the assistance rendered the Health Department through the Department of Medical Inspection of Schools.

To sum up, medical inspection of schools in Edmonton, as now conducted, is proving to be highly satisfactory to the community, and absolutely no opposition to it exists, nor has there been any criticism of the methods followed.

The question whether medical inspection of schools should be under the supervision of the School Board or the local Health Board depends to a large extent on the population of the municipality. In cities of twenty to forty thousand it is quite feasible for the local Medical Officer of Health to take on the additional duties of medical school inspection, and combining both would enable such municipalities to pay a sufficient salary to a medical man to engage his whole time and attention. This, in my opinion, is desirable, because a medical man engaged in practice and giving part time to these duties is rarely efficient. For the smaller cities, therefore, which are sufficiently progressive to have medical inspection of schools, this work should be undertaken by the Medical Officer of Health, whose ordinary duties would not require his whole time.

On the other hand, for the larger cities, I favor having the medical inspection of schools under the supervision of the School Board, for the following reasons:

1. The multifarious nature of a Medical Health Officer's duties makes it inadvisable for him to have the additional work and responsibility involved in the supervision of medical school inspection. If he is active and properly appreciates the importance of his work, he will find his time fully and profitably occupied without the added responsibility and work of medical school inspection. In any case, he would have to delegate the work of school inspection to another man, whose whole time should and would be given to the schools, and who, if his work is to be efficient, should be a specialist in this line. A Medical Officer of Health who is managing his department with the best results to the community has not time to become a specialist in school inspection. Why then should he be put in a position of authority over the Medical Inspectors of Schools?

2. The duties of a Medical Inspector of Schools are not confined entirely to lines which properly can be considered a branch of Public Health work. He has to deal, not only with the health of the pupils, but with the regulation of playgrounds, sports, etc.

In order, however, to get the best results from medical inspection being placed under the School Board, there should be, and must be, perfect co-operation and

harmony existing at all times between the Medical Officer of Health and the Medical Inspector of Schools. If a want of harmony is found to exist, an investigation should be held and the trouble ascertained. It will generally be found due to temperamental defects in these officials, and should call for the dismissal of one or both. The duties of both officials are usually clearly defined, and where they necessarily overlap there should be no friction if both are working unselfishly for the general good of the community.

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t replacnould and My experience in Edmonton, where the most satisfactory relations have been maintained for several years between the Health Department and the School Board, each assisting and co-operating with the

other, leads me to strongly support the contention of those who maintain that school inspection should be placed under the supervision of the School Board. It is only fair to say, however, that the Medical Inspector of Schools employed in Edmonton is possessed of more than the usual tact and ability, while he at the same time has an intimate knowledge of the latest advances in Public Health work and the control of infectious disease. Under his administration, carried out by keeping up close and intimate relations with the Health Department, where he frequently consults the records of infectious disease, medical inspection in that city has reached a high degree of efficiency.

### THE PROMISE ON THE DAWN.

Rachael R. Todd, M.D., C.M. .

- Oh, Belgium of the sodden fields,
  The nations all had named Thee, "free"!
  What curse from out the ancient past,
  Relentless ever, follows Thee?
- Oh Belgium of the bitterest doom!

  What cup must still Thy people drain?

  What draught of wormwood, gall and gloom?

  What endless scourge of rending pain?
- Oh Belgium true! To stay the horde
  That blinds the day with blood and
  wrath,
  Hest given unseked the deathless word
  - Hast given, unasked, thy deathless word, To save a sleeping world from death.

- Oh Belgium brave! Thy fearless sons
  Still fall beneath untarnished shields:
  Undaunted, stayed the nameless ones
  That drown in blood, thy choking fields.
- Oh Belgium sad! Thy dawn comes late.

  Red gleam thy ways through crimson
  dew,
- Thy paths shall yet laugh with the rose,
  Thy streams smile back the dreaming
  blue!
- Oh Belgium fair! Doth see the hand That golden, writes upon the dawn? Dost see, above thy martyred land, The living crown that thou hast won?

### THE WRITING ON THE DAWN

"Beloved of God! Thy lands shall be The cradle of undying faith. With flaming sword, eternally, Shall honor guard thy upward path."

### HOW CAN THE AVERAGE OLD STABLE BE MOST CHEAPLY FITTED FOR THE PRO-DUCTION OF CLEAN MILK

By J. B. HOLLINGSWORTH, D.V.Sc. OTTAWA

P OR the production of clean milk, a clean stable in which to conduct the operation, is of the first importance. The stable should therefore be arranged so that the labor of keeping it clean may be reduced to a minimum. The ceiling, walls and floors of the average old stable are so rough and dirty from the nature of the materials and the manner of construction that they cannot be kept in a sanitary condition. The ceiling or floor overhead should be constructed either of matched flooring or two thicknesses of one-inch board laid so as to break joints. The joists underneath this floor should be practically smooth and free from loose bark or places where dirt may collect.

Walls should be made tight and smooth. This may be accomplished by sealing the walls on the inside with dressed lumber, which makes a neat smooth wall, which can be kept clean with little trouble. Ordinary building or tarred paper is not substantial enough for this purpose unless it is entirely covered with boards.

As wooden floors are hard to keep in a sanitary condition, they should be replaced with cement. This work can generally be done more cheaply in August than any other time. A skilled workman should be employed to lay the floor, but the labor of hauling and mixing can be done with the regular farm help.

To build a concrete floor the wooden one is removed, and also the accumulation of fertilizer which is usually found underneath. Then, fill in the space with common field stone up to the top of the foundation, making the upper layer of small stones in order to have a level surface to receive the concrete. The proportion of cement, sand and gravel to use, vary according to their quality. The usual proportions are one part cement to two parts

clean sand and four parts sharp gravel or coarsely broken stone. These should be mixed thoroughly while dry, and after being wet to the proper consistency should be used immediately. This concrete should be laid three or four inches deep.

The cattle stand should be about four feet nine inches for the average run of cows, with a gutter eight inches deep on the side next the cw and six inches on the wall side. I believe the cows should head in with about seven feet of a feed passage. This arrangement lets the sunlight on the business end of the cow.

The manger is a simple concrete trough, the centre cement ally being raised sufficiently for that purpose. The bottom of this manger should not be lower than the eattle platform. All corners of the cement work should be made rounded so as to be easily cleaned.

The windows and ventilation should next receive attention, and to this end each cow should be provided with at least three square feet of window space, and the Rutherford system of ventilation installed, which I believe to be the most practicable, the most cheaply installed and the most easily operated.

This system allows for the admission of fresh air at or near the floor level. In arranging for the intakes it is necessary to so construct as to direct the incoming currents of cold air upwards, rather than outwards or horizontally across the stable. In arranging for the outlets care must be taken to have same sufficiently large and free as possible from bends or obstructions in order to permit of the rapid escape of foul air. These outlets, of course, should begin at the ceiling. The outlets should be controlled by a key, similar to those used in a stove pipe. The capacity and ar-

rangement of the intakes and outlets is a matter of considerable importance. These should be about one square foot of intake for each ten cows and the outlets should double the capacity of the intake. outlets should never be less than eighteen inches across. Shafts smaller than this are unsatisfactory. In the first place, they are almost certain to sweat. Light is another important factor towards maintaining a healthy herd. An upright is preferable to a horizontal window, as it more thoroughly lights the lower portion of the stable space. A window in two sashes, fitted to move freely up and down like those of a dwelling are the best. Too many of the windows, because of swelling, are difficult to move just when the openings are most needed. Therefore, for the production of clean milk, the cow stable should be well lighted and ventilated. The floors should be of cement, the walls and ceiling should be lime washed at least twice a year, and the manure hauled directly to the field. Special care should be taken to avoid dust in the stable during the time of milking, and the cows kept clean and milked in a cleanly manner. We need to realize that good, clean, normal milk is the most important single article of diet in the whole list practically indispensable.

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The enormous extent to which it is used as a food for children, and even adults; the extent to which it is used as food for growing calves and other live stock; the ease of infection and the fact that bacteria multiply readily in it; the comparative ease of producing wholesome milk, all emphasize the vast importance of having a proper source of supply. It should be remembered, however, that expensive dairy plants are not necessary for the production of clean milk or for high dairy efficiency. It has been estimated that the dirt usually found upon the cow or about the stall, on the dirty clothing of the milker, may contain up to 80,000,000 bacteria per gram of dirt and that 50 per cent. of the dirt that falls into the milk is soluble, and, of course, cannot be strained out or removed under ordinary conditions. Other authorities state that 80 to 90 per cent. is soluble. This would mean that only 10 to 20 per cent. can be strained out and that the uninviting collection which appears on the strainer represents only onetenth or so, and the other eight or ninetenths are in the milk to stay. It is important to realize that clean milk has wonderful keeping qualities-keeps wonderfully well, if clean enough and properly handled.

### NATURE.

-Cowper.

# NERVE BLOCK, PUBLIC HEALTH AND TUBERCULOSIS

By SIR JAMES GRANT, K.C.M.G., F.R.C.P., (Lon.), Ottawa, Canada

President Ottawa General Hospital and Chief of Staff

PUBLIC health is now calling forth much merited attention, and very fortunately so, as valuable life is thus saved, and the foundation of national prosperity established. The first question which arises is, Are we making distinct and satisfactory progress in our sanitary measures?

In England, after the Restoration, for fully twenty years, there was a high degree of mortality throughout the kingdom, which Macaulay described as a time when men died faster in the lanes of the towns than they died on the coast of Guiana, as the rate of mortality in London, from 1660 to 1679, was not less than eighty in the thousand. Fortunately a few years exercised a remarkable change for the better as from 1846 to 1855 it was reduced to 21.9 per mille; and in 1871, to 22.6. In England and Wales the death rate in 1912 was 13.3 per mille, twenty-seven per cent. less than the mean yearly rate during the period 1891 to 1900. The death rate is much in proportion to the density of population. Man has no control over the laws of nature, but if we live in compliance with these laws, we more and more appreciate that they are charmingly arranged for the promotion of health and the prolongation of life. The health of the nation stands in close relationship to the individual. When the waste of the component parts of the body is greater than the power of restoration, then is the time to observe closely the indications of bodily decay; in the evident want of balance between waste and supply, there is an undoubted wornout condition of the system.

The essential requirements of communities and individuals must be and really are the same. Individuals must be well clothed, well fed, well housed, well aired, and well watered. Public health is a simple problem yet frequently its attainment is difficult. A great part of sanitary science can be stated and compromised in one word—cleanliness. Clean houses, clean air, and clean water are a remarkable trio of power in establishing genuine sanitary conditions.

The ancients fought against bad smells most vigorously and endeavored to mask odors with perfumes. In fact at the present day, scents abound frequently to suppress filth. Ancient Capua had streets of perfume shops with that object in view. There is little of originality in our efforts in public health. Moses was a most practical hygienist, and one of the most telling and far reaching commandments he brought down from the Mount was Thou shalt not pollute rivers. In fact the ancients knew as well as we of the present day, the conditions of public health-foulness a source of disease, and cleanliness a preventive. Wash and be clean is actually the sum and substance of sanitary science. Physical and moral purity is next to Godliness.

In 1665, when the Court and Parliament of England assembled at Oxford, it had an immunity from plague, traced to the thorough cleansing which the magistrates gave to the city, to insure safety for its distinguished guests, confident that public health could be assured only by cleanliness. These are our lessons to-day.

Hippocrates, the first hygienist, gave to science an entire volume on public health, and his chief text was pure air, pure water, and pure soil, the adopted maxim of the present day after centuries of careful inquiry. Napoleon at St. Helena stated, "Life is a fortress which we know little about. Water, air, and cleanliness are chief in my pharmacopæia." Really to-day our knowledge of air and water is not complete. Nature is an object lesson in hygienic arrangements, which if followed carefully, will be productive of most gratifying results.

Canada delights in the scenic beauty of its rivers, and we trust the prospect of their being converted into open ditches, polluting the districts through which they flow, will by legislative enactment shortly become a matter of the past. Ottawa has suffered from an epidemic of typhoid fever, so we look forward to a supply of water which will not require purification, and so contribute health, happiness and prosperity to our people.

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Disraeli, in a celebrated speech at Manchester, pledged himself that a conservative Government would devote special attention to sanitary subjects. He said, as Prime Minister of England, "I cannot impress upon you too strongly my conviction of the importance of the legislature and society, uniting together in favor of these important results."

The Rt. Hon. Joseph Chamberlain, whose death the whole British Empire is was deeply now mourning, interested, while in public life, in the health and welfare of his people, and we can well pay a tribute to his memory for the remarkable breadth of view which enabled him to define the close connection between successful colonization of the tropics and the problems of disease. Through his interest in drinking water, the housing question, and tropical medicine, he contributed in a great measure to strengthen the foundation of national prosperity.

Nothing could possibly be nearer the mark than the aphorism of Franklin that 'Public health is public wealth.'' It is gratifying to our profession to be aware of the fact that, through the energetic foresight of the Minister of Militia in Canada, Colonel Hughes, his staff, and the late Minister, Sir Frederick Borden, the sanitary measures of the Canadian force are fully up to date, in keeping with the progressive spirit of the present. No greater contrast could be produced than the death rate in the Crimean war, and the marked saving of life, in the forces of Japan, during the Russo-Japanese confliet, purely the outcome of scientific advance in the sanitary conditions of war and the aseptic treatment of wounds. Let me here state that no class of men labor more zealously, quite irrespective of personal considerations, for the prevention and

cure of disease, than members of our profession.

The drama of tuberculosis is before us, and the spirit and determination of the the British Government is well shown by a recent grant of £250,000, by the Chancellor of the Exchequer, the Hon. Lloyd for tuberculosis, nursing and George. pathological laboratories. This is a step in the right direction, as by united and energetic action an effort will be made to stamp out this plague, a dangerous accessory of social life. What an enormous aggregate of misery is caused daily in family circles, when we consider that every third death during the working period of life, is caused by pulmonary tuberculosis. The bacillus cannot find a resting place unless the system is in a fit condition for its recep-The danger of infection is present only in enclosed spaces. Air and sunlight are the chief agencies of purity and life, in the presence of which the tubercle bacillus rapidly perishes. Two continuous sources of infection are tuberculous human beings and tuberculous food. These problems being fixed in the public mind by a degree of education in this subject, suggested the idea of the formation of a Canadian Association for the Prevention of Tuberculosis. Thirteen years ago, this association, through the vigorous assistance of the late Lord Minto, was formed, and since that date, by the generosity of our people and the assistance of the Government, sanatoria are now in operation in every province of the Dominion, doing good work in assisting those suffering from tuberculosis.

In each county, by special organization. a committee of men and women, with the local physician, should be formed to report more regularly on tuberculous conditions, and talk over the subject at church and school gatherings. Such committees would arouse an additional interest in the subject, and stimulate inquiry. Education is what we require, the more the better. In Ontario Sir James Whitney divided the Province into districts, with a medical inspector for each. The work, however, is so great that no single medical man can possibly learn all the facts as to the spread of tuberculosis, so that practical and telling assistance could be rendered by local committees, in controlling the spread of the disease.

An important matter for consideration is the food supply of our population. Meat, milk and dairy products, if impure, may introduce bacilli into our organs, influence the blood supply, and thus lower vitality, an admirable preparation for tuberculosis. At this stage municipal preventive measures will prove of great service.

Twenty-five years ago I frequently rode into country districts to visit patients, and was surprised to see cattle walking knee deep in slush, mud and manure in barn yards, and actually shingled with manure, dry, hard and fast to the hide of the animal, where it had been for weeks at a time. Meat and milk, under such circumstances, are not desirable foods. Water from the barn yard, filtering into the well of supply, is poisonous to cattle. Education would accomplish a good object and add greatly to the revenue and resources of our Dominion.

In Norway and Sweden, owing to exemplary cleanliness and the perfect sanitary conditions of cows and stables, the highest premium is secured for their dairy products in British markets. Under like circumstances, these avenues of trade are open to our people, who should thoroughly understand that the skin is to man for health and purity what the hide is to the milch cow as a wealth producer.

It is absolutely necessary that a knowledge of the relations of tuberculosis to the conditions of life should become thoroughly known to our farmers. The school, the family in every stage of life, should be carefully informed on what concerns life, energy, activity and progress. A responsible tuberculosis bureau might be established in each Province, which would become a strong factor in a change for the better. In this disease we want and must have increased activity to note, observe, change or modify existing conditions. Specific orders from a central bureau would arouse a spirit of inquiry for the guidance and education of our people. No pecuniary sacrifice is too great to save the lives of our workmen and their families, by healthy food supply and safe dwelling houses. In the past twenty-five years tuberculosis has been considerably reduced in the German Empire by such measures, and we hope that like success will follow the strenuous efforts of Canada in the same direction.

#### Nerve Block.

Knowing the widespread incidence of tuberculosis, and the difficulty experienced in lessening its death rate, every effort should be made to stay its present advance. During the past twenty-five years marked progress has been made in the study of nervous disease, by Sir Victor Horseley, Ferrier, Mott, Sherrington, McDonald of Sheffield, and others, and still a wide field is open in pathogenesis, etiology and pathological anatomy. Punch remarked, "You never do know what these creatures of nerves can accomplish." For years the relationship between nerve tissue and tubercle has been a subject of inquiry. Nerve is a remarkable structure which holds parts together, regulates and co-ordinates organic functions. Nerve block is a serious problem, as it takes a wide range in the system, and in a marked manner interrupts the reflex function of nerve structure. This is a result of marked irregularities in the performance of various functions of the system. First and most important come defective digestion and retarded food assimilation, which extend through the alimentary canal, and are followed by the formation of poisonous gases, ballooning the colon and sapping general vitality. This state of the system disturbs nerve structure in a remarkable manner.

Sherrington, of Cambridge, and McDonald, of Sheffield, defined the chief constituents of the axis cylinder of nerve tissue as salts of sodium and potassium, which contribute to reflex action and functional nervous activity as a whole. In the treatment of cases of nervous debility and brain overstrain, I have frequently observed sections of the body, particularly the limbs, in which no feeling or sensation was experienced on application of the neurotone charged by a dry electric cell. Suddenly, after several tests by the instrument, sensation developed to a high degree. abnormal insensibility aroused a suspicion of block in some direction, the sudden disappearance of which led me to infer that a solution of continuity had taken place in the obstructive constituents of the axis cylinder. The problem then presented. What change in the axis cylinder constituents interrupted normal transference of the electric current?

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Sir Walter Foster, of Cambridge, defined clefts in the axis cylinder, but left them entirely unexplained. The most remarkable deduction is that the noxious gases in the alimentary canal, the outcome of imperfect assimilation of food products, not only produce a distended colon, but also result in a chemical change in the saline constituents of the axis cylinder. Incidentally, I might here state that in testing sensation by the neurotone, in patients over the fortieth year, I have frequently been surprised by marked differences of feeling in the limbs, which led me to infer that some interstitial change of structure in the ganglionic nerve centres was in progress, indicative of approaching paralysis.

Appreciating the importance of the nervous system in imparting energy, strength and normal activity, I feel confident, after most gratifying results in the treatment, by electrical massage, of debilitated states of the system from nerve block, that the same therapeutic agency is worthy of the most careful investigation in debility from tuberculosis, as I believe that many valuable lives may be saved in this manner.

In such cases, the chief centre of nerve block is the abdominal cavity, in close proximity to the distended colon, developing slowly and gradually and sapping vitality through a defective blood supply. For years past I have had this abnormal development of the system under research and electrical massage has proved a valuable means of relief, far in advance of medicinal agents. Remarkable results follow a direct electric current and massage in gastric and intestinal digestion, as well as increased general vitality and a rapid reduction of colon distention. These are the outcome of liberating blocked reflex action, and normal nerve power is thus reestablished. The object of the application of the neurotone current to the extremities is twofold, to remove all direct nerve block and to arouse increased reflex activity in the terminals of the sciatic and saphenous nerves, accessories to the histogenetic abdominal ganglia, factors in the elaboration of blood, the pabulum of life. Electric massage sohuld be applied two hours before or after a meal and strictly avoided in all cases of paralysis, as where organic change in nerve structure is in progress, electricity is contraindicated.

### MUSIC.

There is sweet music here that softer falls Than petals from blown roses on the grass;

Music that gentlier on the spirit lies Than tir'd eyelids upon tir'd eyes.

-Tennyson

### PRINCIPLES OF CRIMINAL ANTHROPOLOY

By ARTHUR MACDONALD, Washington, D.C.

Honorary President of the "Third International Congress of Criminal Anthropolgy" of Europe

RIMINAL anthropology is a recent line of research. It includes the study of man mentally, morally and physically, and necessarily depends on the results of many sciences. It is therefore distinctively synthetic in character. Criminal anthropology affords more opportunities for persons of ability to carry out the highest ideals than any other branch of inquiry.

The following are some of the principles of criminal anthropology, or what might

be called its platform:

1. Degrees of criminality should be estimated according to detriment to the community. From this point of view, international crime, or war, is by far the greatest of all crimes.

2. History is mainly history of the abnormal, especially war and one of the objects of criminal anthropology is to lessen and prevent war. Montaigne says: "It is more barbarous to kill a live man, than to roast and eat a dead one."

3. The greatest of all studies is man, which is based upon the individual, the

unit of the social organism.

4. If the study of civilized man is to become a science, it must depend upon investigation of large numbers of individuals, and the method should be the same for all classes, if we are to distinguish between the normal and abnormal.

5. The best method of study for criminal anthropology is that of the laboratory in connection with the sociological data.

- The thorough investigation of ONE human being with the means at the disposal of science, would make a volume.
- All facts about human beings are important from the scientific point of view, whether those facts be immediately available or not.
- All that is diseased is abnormal, but not all that is abnormal is diseased; thus a hand with six fingers is abnormal, but not necessarily diseased.

9. We must study the normal to comprehend the abnormal, for

10. When the normal acts in an unsuitable way, or at the wrong time or place, it may become abnormal. The fundamental conception of the abnormal is EXCESS of the normal; but

11 The difference in

11. The difference in degree between the normal and abnormal can be so great as to result in a difference of kind; just as when two fluids reach a certain amount, a precipitate is formed which is very different from the ingredients from which it was deposited.

12. Abnormal man may be abnormal in the right direction, as genius man, talented man or statesman; or in the wrong direction, as criminal, pauper or defective man. It is all MAN, and the study of these different classes might be called the anthropology of the living as distinguished from prehistoric anthropology.

13. Of all forms of abnormal humanity, crime is nearest the normal; the study of criminals, therefore, is mainly the study of normal men, and knowledge thus gained may be generally applicable to the com-

munity as a whole. Therefore,

14. The prison and reformatory can serve as a humanitarian laboratory for the benefit of society. As the surroundings of the inmates are similar, conditions for scientific research are favorable.

15. As in machinery, we first repair the parts out of order, so in society we first study the criminal, pauper, insane, feebleminded and other defectives, all of whom constitute about one per cent. of the com-

munity. But

16. Why should we allow one per cent. of society to cause so much trouble and expense to the remaining ninety-nine per cent., crime alone costing more than one-half billion dollars annually? It is mainly because of neglecting the young, where study of man should begin. For

17. There is little hope of making the world better, if we do not seek the cause

of social evils at their foundation.

18. No evil can be PERMANENTLY lessened without first finding its cause. There is probably no ONE cause of anything, but a chain of causes.

19. Drunkenness is not only one of the main causes of crime, but one of the greatest enemies of humanity, because it brings suffering upon so many innocent people.

20. We cannot be tempted to do wrong unless there is something in us to be tempted; that something is a part of ourselves as distinguished from our environment; therefore,

21. The comprehensive study of man requires investigation of both individual and his surroundings, for the environment may be abnormal, rather than the man.

22. Cranks or mattoids who attempt the lives of prominent persons are very important solely on account of the enormous injury they can do to society. They, therefore, should be studied most thoroughly.

23. Just as the physician studies his patient in order to treat him properly, so one should study the criminal.

24. The exhaustive investigation of a single criminal illustrates just how and by what steps both environment and inward nature lead to criminal acts.

25. Criminals, paupers and other defectives are social bacilli, which require as thorough scientific investigation as the

bacilli of physical disease.

26. No one should be held responsible for the first fifteen years of life, nor is any one accountable for the tendencies inherited from ancestors. As the die is usually east before adult life arrives, responsibility is most difficult to determine, and is often a minimum quantity. Therefore,

27. In judging human beings we should emphasize their excellencies rather than defects. As has been said, to know all is

to forgive all; yet

28. Every person dangerous to property or life, whether insane, criminal or defective, should be confined, but not necessar-

ily punished.

29. The determinate sentence permits prisoners to be released, who are morally certain to return to crime. The indeterminate sentence affords the prisoner an opportunity to reform without exposing society to unnecessary danger; but

30. Society has no right to permit prisoners to be released who will probably return to crime; for

31. Where it is a question between justice to the individual or justice to the community, the community should have the benefit of the doubt.

32. The prison should be a reformatory, and the reformatory a school; the object of both should be to teach good mental, moral and physical habits; both should be distinctly EDUCATIONAL. There should be a minimum temptation to do wrong and a maximum encouragement to do right.

33. Institutions for reforming human beings should have the conditions as similar as possible to surroundings outside, so that when inmates are released they may adapt themselves more easily to society

and not become misfits.

34. Everyone has the right to a proper

bringing up; and

35. The time has come when we should study a child with as much exactness as we investigate the chemical elements in a stone or measure the mountains on the moon.

36. One purpose of criminal anthropology is, through knowledge gained by scientific study, to protect the weak, especially the young IN ADVANCE, before they have become tainted and fallen; not locking the barn door after the horse is stolen.

37. The treatment of young criminals should be the prototype for treatment of adults, and procedures against them should have as little publicity as possible.

38. Publication in newspapers of criminal details is an evil to society on account of the power of imitation. In addition it makes the criminal proud of his record, develops the morbid curiosity of the people, and it is especially the weak who are affected.

39. Place confidence in the so-called bad boy, awaken his ambition and teach him

to do right for right's sake.

40. Put the criminal upon his honor. A criminal once said, "If they will not believe me when I tell the truth, I might as well tell lies."

41. Nothing will hinder development of the young more than the prospect of having plenty of money and no necessity to work. Idleness often leads to crime.

42. It is more important to know what is good than what is true; for

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43. Increase in intellectual development is not necessarily connected with increase of morality, and education which trains the mind at the expense of the will is a questionable education.

44. The longer we live, the more we appreciate the average honest man, as compared with the dishonest talented man.

45. To any observer of life, the impracticability of pessimism and the advantages

of optimism are evident. It has also been estimated that,

46. Most of our thoughts, feelings and acts are indifferent; but of those remaining, three-fourths are pleasurable and one-fourth painful, indicating more pleasure than pain in the world.

47. Act as thou wouldst act, if all the consequences of thy act could be realized at the moment thou actest.

#### ART

Art, with her expressive face, Steps forth to fashion and refine the race.

-Cowper.

### THE HOUSE OF HOHENZOLLERN

By FLORENCE WITHROW

(Concluded.)

REDERICK II. (1740 to 1786), only 28 years old, was loath to take the reins his father had so firmly held for he had learned to love serene days of quiet study. Being brilliant in literature and music, the French language and the flute were his fondest pastime. However, he nobly and strenuously assumed the grave responsibilities of State, and directed his first thought to the Army, which numbered 90,000, by dismissing the giant grenadiers and forming less costly corps. His personal frugality and state economy equalled that of his father.

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In 1740 the Emperor Charles VI. died. By the Pragmatic Sanction his daughter, Maria Theresa, became successor. Daring Frederick saw here his opportunity, and showed the perfidy characteristic of many Hohenzollerns, for while sending friendly messages to the bereaved girl Queen he precipitously invaded Silicia without declaration of war. To the British mediator he curtly retorted, "I care not for peace. Let those who wish it give me what I want"—Is the "shade" of Frederick the Great actuating the present Emperor?

Frederick II.'s war activity lasted many years and changed him, as he said, "from a buoyant foal to an old Nestor." ravages of war wrought ghastly havoe in the countries devastated and in Frederick personally. He wrote: "I am grown grey with grief, furrowed with fear and bowed with bodily ills." Atrocities were committed, but nothing so unthinkable as those permitted now by Prussian vandals in brave Belgium and in La Belle France. When years of peace came, Frederick retired to his tiny palace at Potsdam. There he devoted himself to his dumb beasts and solaced his loneliness with literary friends. His wife never came and only once his sister. In fact, scarcely ever did a woman enter even the terrace palace grounds. Voltaire was his close companion, although even they quarrelled.

This remarkable monarch's industry was colossal. His musical compositions com-

prise 121 sonatas and his literary works fill 20 volumes. Affairs of state, even in old age, occupied much of his time each day. His vigilance equalled that of his father, for he was aware of the daily routine of every minister, official and officer. A fair amount of tolerance characterized his measures, although as a true Hohenzollern he claimed absolute authority. With the Courts of Law, however, he did not interfere, as evidenced in his submission to the miller's rights.

Although the first half of Frederick's reign was warlike and the second half peaceful, the acquisitions in each period were about equal, for part of Poland was gained by diplomacy. As East Prussia, it is considered of greater value to Germany to-day than is Silicia in the South. What Russia will do to it now remains to be seen. After this so-called first partition of Poland (1772) the King's title was changed to King OF Prussia.

The army on Frederick II.'s accession numbered 90,000, at his death 200,000 out of a State of 5,000,000. How great a contrast in numbers to the millions of armed men in Germany to-day! With what frightful increase has the military spirit grown!

The broken warrior's last days were passed pathetically at Potsdam. Racked in body and broken in spirit, though still the idol of his people, Frederick, the greatest soldier since Alexander and Caesar, passed away in his arm chair at his modest palace, aged 74 years. His world defamed imitator, the present Kaiser, will surely find no Sans Souci (without care) resting place for his latter days. Let us not forejudge what they should be. May Heaven have mercy on this defiler of the Rights of Nations!

FREDERICK WILLIAM II. (nephew, 1786 to 1797), called the Fat, was a superstitious, lax ruler, incompetent and vacillating. He muzzled the Press, and debased the coinage, also inaugurated that system of strict surveillance of the personal

acts of every citizen which has since grown to tyrannical proportions. In lands of free institutions such scrutinous vigilance does not exist.

In his reign, through the second partition of Poland, Prussia acquired another large slice of that cruelly dissevered Kingdom.

FREDERICK WILLIAM III. (son, 1797 to 1840), while a good man, was most unwise and so became a tool of the grasping Napoleon, who made insulting terms with him at Tilsit, thereby greatly reducing German territory.

His noble Queen Louise strove to procure modification of the humiliating conditions, but the obstinate Emperor treated her with cruel cortempt, and when she offered him a rose, stying. "With this Sire spare us Magdeburg," he rudely trampled it under foot. The King and Queen suffered many indignities and were forced to leave the royal palice and live in a humble dwelling, until they fled to the Court of Russia.

The F ench occupied Berlin for three years, dring which time Napoleon carried off the 1 ronze horses from the old Brandenburg rate, and in many ways chagrined the proud spirited Prussians, decreeing that their army for ten years must not exceed 42,000 men, and that they must pay \$50,000,000 indemnity.

However, when Napoleon's sun set Prussia's star arose, although she suffered from exhaustion for years—Who dares estimate the aftermath of the present devastation, for the grim hand of war is long and paralyzing.—From 1815, when Blucher joined Wellington, to the Danish war, 1864, not a Prussian army left its own Kingdom, a circumstance unprecedented in the annals of this belligerent people.

The real advancer of Prussian welfare in this storm and stress period was the Prime Minister Stein, who passed through varied vieissitudes of high office, being twice dismissed by the King and once exiled by Napoleon. To his astute judgment belonged the Zollverein or Commercial League, which regulated 67 conflicting tariffs and 36 boundary laws, where different coinage and postage existed. Stein instituted a rational system of taxation and civil service, and destroyed judicial torture and serfdom, for up to 1810 two-

thirds of Prussia was in partial servitude. He also gave legal rights to Jews.

The King solemnly promised a liberal constitution, but failed to give it, confining his time rather to internal improvements than to governmental reform. Frederick William III.'s best self appeared at the Congress of Vienna, 1814, when he eloquently pleaded for his country and stipulated that larger power be given Prussia. Thereby he procured part of Saxony, one of the last allies of Napoleon. The King was a man of highest virtue and culture, and founded the University of Berlin, but unfortunately he believed in absolutism and his own autocraev.

FREDERICK WILLIAM IV. (1840 to 1861), was even less of a statesman than his father, being rather a dilettante and philosophie poser. He was as tenacious as all Hohenzollerns of his Divine Right. When not three months King he bluntly told his subjects he deemed a constitution unsuited to their needs and affirmed he would never consent to bind his inherited authority by a written compact. His recorded words are: "No written paper shall thrust itself between my Divine Right and

this land."

Every popular demonstration for governmental rights was put down by the soldiery. Finally a deputation arrived at the Palace, but was refused admittance, and the King ordered the guard to shoot. A furious fight ensued, and soon Berlin was in an uproar. Hundreds of barricades were erected, and the arsenal was stormed. At last the proud King was forced to remove all troops within the city and to stand with uncovered head before the dead dragged into the royal courtyard.

Frederick William IV. was addicted to theology and the pedantry of the schools. Strauss satirized him as "Julian the Apostate or the Romanticist on the throne of Caesar." He was practically the only Hohenzollern ruler who was absolutely no soldier. In both the Schleswig-Holstein revolt against Denmark and in the Crimean war he took no real part.

He surprised the world by his refusal at the Diet of Frankfort (1848) to accept the Imperial Crown, saying the Hapsburg claims were "foreordained." His real aim was for a Pan-Germanic Empire, containing no Magyars, Slavs, Cechs and Crotes, such as composed five-sixths of Austria's population.

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The Revolution of 1848, both in Germany and in Austria, was really a State struggle for representative government. Prussia's first Parliament was so radical that it was summarily dismissed by an armed force under Wrangel, and the King drafted his own Constitution (1850), which was called a Law-taking rather than a law-giving Constitution. Although nominally friends, Prussia and Austria cherished old feuds, and in the Austria-Franco war of 1859 Prussia refused her help. When signing the Peace of Villafranca, Francis Joseph complained of having been deserted by his "natural ally."

The second son of Queen Louise was the next King and the first Emperor. WILLIAM I. (1861 to 1888) had assumed the Regency owing to his brother's clouded mind, but at the age of 60 became King. He was known chiefly as a soldier, thus his first proposal was to increase the army tax. This the Diet refused to do. "No greater blow ever struck the prestige of a Pression King." soid Riemarch.

Prussian King,'' said Bismarck. Undaunted, William summoned Iron Duke as the one man with indomitable will enough to override all obstacles. They admitted to each other that they forced Parliament as did Charles I. and Strafford. Bismarck took control, withdrew the Army Budget, and expended money as he wished. He censored the Press, dismissed Governmental officials, forebade political meetings and ordered soldiers to present bayonets at refractory Members of Parliament. At this heated time Bismarck declared in the Diet: "Speeches and notes do not settle, but only iron and blood." Thus he earned the unenviable sobriquet the "Iron Duke." Later he was created Prince by his doting Sovereign, who approved his war policy for the unification of Germany.

Perhaps the greatest ability of King William was his insight into the power of the man and the moment. He knew that soldier though he was, he could not unite conflicting States as could his powerful Minister. He acknowledged that through his Chancellor came that dramatic moment at Versailles in the vast Palace of Louis XIV., when the King of Prussia received the larger title of Emperor of Ger-

many, 1871. His son and grandson have since held this Imperial office. The Pan-Germanic Confederation comprised four Kingdoms, three Grand Duchies and 21 smaller States, each retaining its autonomy, but becoming a governed unit in the Empire.

FREDERICK III. (1888—99 days' reign) was 57 years old when the old Kaiser died, aged 90. In disposition and ambition he was less vain glorious than his Imperial father, and in character resembled our own British Consort, Albert the Good. His education was scientific, earning for him by examination the degree of Doctor of Science.

While never a lover of soldiering, as Crown Prince he proved a capable General and was Commander-in-chief of the South German forces in the Franco-Prussian war, and later he was the first royal Prince to be made a Field Marshal. Under his leadership several brilliant successes were achieved, and his personal valor was shown at Sedan and in the Siege of Paris.

In January, 1858, he married the Crown Princess of England, Queen Victoria's This 18-year-old Princess oldest child. came to an unfriendly clime in muddy, illbuilt Berlin. The British Ambassador remarked: "She comes to a Dutch-mud-canalof-a-life, with not even a tulip on the The winter was chill and the bank." Court and populace cold. Young Victoria was derisively called "die Englanderin," scorned for her English clothes and teadrinking, and accused of remodelling Germany in English style. Bismarck was the cause of her unpopularity, because he had quarrelled with Queen Victoria and the British authorities, who voiced their displeasure at the Prussian war.

Frederick complained that the "Prince of Carnage," as he styled the Chancellor, dragged him through blood to the throne. Both his mother, Queen Augusta, and his wife bitterly condemned the "reeking tube and iron shard," and he himself branded Bismarck's war measures as "Crime." He asked to renounce his royal claim to succession, but, also, only reigned three months, being cut off by a malignant throat cancer. Would that this noble Monarch had been spared to lead into paths of Peace his now demonized son, the

world's greatest war despoiler!

WILLIAM II. (1888-1915 (?) born 1859) began his reign with an act of military authority, practically converting the death palace of his revered father, in quiet Potsdam, into an armed castle. Troops were immediately commanded to surround the Palace in order to prevent the carrying off of certain private and State papers.

The young Monarch's first public act was an address to the Army, couched in grandiloquent language, in which he unmistakably asserted authority over both Prussian and Imperial troops.

His next speech of florid verbiage was addressed to the Navy: This strikes one as ludicrous, since the Navy then was scarcely even a "tin-pot" one, but rather a "wooden-tub fleet." However, William II. was laudably ambitious that "Germany's destiny be on the sea."

The Kaiser's third rhetorical eloquence was delivered to the People, declaring his Divine Right to rule," in fact as well as in name," and promising to be "a just and element Prince, to cultivate piety and the fear of God."

Pompous and bombastic have been the myriad speeches of egotistic Wilhelm, but no doubt he was well-meaning and pious, so far as he understood piety. The world now ridicules his so-called "alliance with the Almighty," and his seeming hypocrisy in long and loud liturgy and sermon. "Let us Prey" is Punch's interpretation. Nevertheless, let us give him credit for sincerity in his reiterated platitudes. Whereing this man has signally failed is in power and character to act as he spake.

To be sure in autocratic assumption and presumption William II. has acted according to his incessant speaking for 26 Did ever man talk more! tongue is surely the unruly member and may prove his undoing equally with his mailed fist-poor withered hand, in very truth, if Hohenzollern power becomes forever forfeit. Frequently has he made such statements as, "I accept the co-operation of all, but shall crush anyone who attempts to cross my purpose," "In me, as in my ancestors, is an inflexible will, and despite all resistance I shall continue always in the way I recognize to be good," "Considering myself as the instrument of

God, without heeding the opinions of the day I go my way."

Small wonder that this imperious will and Bismarck's soon clashed. He claimed himself ordained of God to take the helm and so dismissed the old pilot, on whose retirement to Friedrichshruhe (1890) he triumphantly exclaimed, "I am the pilot, full steam ahead!"

Stormy words often passed between the two stern-willed men. Once the Kaiser called upon the Chancellor in his home, who remarked, "the orders of my Emperor stop before the threshold of Princess Bismarck's door." He refused to resign, stating he must be dismissed, but finally wrote a simple resignation. He claimed that ministerial responsibility was impossible and said, "I cannot tack on, as a tail to my career, the failures of arbitrary and inexperienced conceit."

While Bismarck was responsible for the fallacy of Armed Peace, he was yet Germany's greatest Chancellor, and with General von Moltke welded together the Empire. His work was done and perhaps it was well this Machtpolitik Minister did not continue in power to inflame the already military-spirited young Monarch. To the Kaiser's credit he was not obsessed with desire for war for some years. At first he assiduously cultivated colonization, commercialism and education-all wherein he merits praise! He has been industrious and vigilant and largely through his effort and example has Germany's rise been phenomenal. Unfortunately he has always been a poser with a strange admixture of sense and indiscretion, piety and pride. While talking democracy he has acted autocracy, while feigning Peace he has thought War. He has sowed the wind and to-day reaps the whirlwind.

The second year of Wilhelm's reign, when he was just thirty years old and his moustache most retroussee, he made a royal progress to the Courts of Europe and to Turkey and Palestine. "Hoch der Kaiser" everywhere greeted this vainglorious Hohenzollern. He maintained alliance with Austria and Italy, and sought the same with Russia and Turkey.

Anti-British feeling was strong in Germany on account of Britain's colonial and commercial supremacy, but whether

in sincerity or duplicity the Kaiser cultivated the British, he made an annual visit to England until 1895. Then through growing Prussian jealousy, which he personally shared, he did not return until the death of Queen Victoria, his grandmother, 1901.

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a a crering hile He the ign, his e a rope der ainined and key. Gernial ther In 1898, with shadowy hope of casting upon himself the glamor of a Roman Emperor and with aspiration for Asiatic dominion, dictated from the Mount of Olives, he again visited the Near East. An incongruous friendship arose with Abd-ul-Hamid, notorious in the Armenian masacres. This Sultan presented him with the magnificent ruins at Baalbee in Syria, which the Kaiser decorously left, putting up a huge tablet to that effect.

He tried to compass a Protestant-Catholic-Moslem combination, conceding to Sultan, Patriarch and Pope certain proposals. Into Jerusalem he made a triumphal entry, part of the wall at the Jaffa gate being removed to afford entrance for his august Majesty.

For his Catholic subjects he built a huge church on Mt. Zion and a Hospice on Mt. Olivet, "unveiling himself" in the latter as a Crusader, ten feet tall in solid bronze.

This strenuous Kaiser is also a dilettante, having written dramas and scientific scrolls, sonatas and sermons. Certainly he has abilities, but his versatilities have been too versatile. Although he has had able Chancellors, Caprivi, Hohenlohe, Von Bulow, he has meddled in Parliamentary affairs and made Constitutional

Government a farce. As Dr. W. A. Pratt observingly puts it, the beloved Vaterland shows no mottoes of freedom like France's glorious "Liberte Egalite Fraternite," but rather the Imperial police mandate, "Es ist verboten" (forbidden).

Growing social democracy repeatedly attacked William's autocratic interference, nevertheless German Socialism has now let a natural instinct of patriotism overcome its principles of right. In spite of splendid advance in industrialism the working classes have shown deep dissatisfaction, and social easte is yet a curse of the Fatherland.

In colonies Germany has done well. The murder of two Catholic missionaries in China was a pretext for landing troops at Kiao-Chau (1897). Thereby she acquired a port as a base for increasing trade at Tientsin. In Africa perfidious conduct characterized the Kaiser, both in his telegrams to Jameson and to Kruger and in his pro-Boer attitude. As to the Anglo-Japan alliance and naval supremacy he has increased his armaments for years in order to smash all sea power. Of Prussia's iron system and barbarism, also of Teuton "kultur" and moral perversion, nothing need here be said, since the whole world knows and shudders in amazement.

We can but pray that the outcome in battling Europe shall be that all war lords disappear, and that all nations cease from slaughter. May the whole earth speedily know Peace and Freedom, then shall "world-power" be the Federation of the Nations.





In our November issue we were privileged to publish the inaugural address of

Dr. H. B. Anderson's Address

Dr. Anderson, as President of the Academy of
Medicine, Toronto. A
careful study will con-

vince anyone that this is a production far above the ordinary. It was delivered at a time when the first shock of the war was upon us, and when cherished hopes for the Academy had to be abandoned on account of the abnormal conditions. And yet the President of the Academy has presented us with an array of facts which may well keep us thinking for many a day. He has outlined for us the growth of the Academy, a growth which has been steady and abiding. The friends of the institution have grown in numbers and in generosity. The Academy has provided the finest kind of post-graduate institution where neophytes may rub shoulders with physicians of ripe experience to the betterment of both. The library, upon which Dr. Anderson lays great stress is growing rapidly, and is now the second largest medical library in Canada. The outlook for the Academy is very bright indeed, and to such men as Dr. Anderson we must give the credit of the present conditions. But it is in the field of medical education that the address enters upon high ground. No one is more competent to speak upon this subject than the President of the Academy. He has been engaged in the teaching of medicine for many years and brings forward in his address the sanest idea with reference to this problem. For that it is a problem Dr. Anderson quite clearly shows. He also sounds a note of warning if the present tendency of divorcing clinical work and laboratory investigation is persisted in.

What the President would like to see is a closer association between the two, and he has faith to believe that this will be the tendency of the future. Nothing can take the place of the practised clinician, though laboratory investigation be perfected far beyond its present stage. Dr. Anderson does not forget the rank and file, the general practitioner and shows the great opportunities which he has of studying disease and of adding the sum total of medical scientific knowledge. Altogether we have reason to recommend this article to the attention of everyone interested in the future of the profession of medicine.

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Four months have passed since the outbreak of hostilities on European soil, and we live to-day in a spirit of

The War. confidence in the final outcome which cannot be shaken. The Allies have frustrated the plans of the War Lord and when the Spring comes will no doubt carry the war into the enemy's country. Some of our Canadians are, we read, already on French soil. A portion of the Army Medical Corps is of this number and we presume are now rendering aid to the sick and wounded in the war zone. There is one incident which produces a nasty taste in the mouth. In England while so many sons are loyally flocking to the colors, the professional football players are carrying out their schedule as usual, refusing to enlist themselves and by their example keeping others from enlisting. This is the most contemptible bit of action in modern English history. Imagine it if you can! Here are stalwart athletic youths engaged in a mimic game of warfare while the fate of Europe hangs in the balance and the principles of Liberty, Righteousness and Good Government are being upheld even at the cannon mouth. If this be sport let us descry it forever.



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Some people are wondering how long the Germans can hold out, how long it will take to starve them into defeat. Frozen Apropos of this very pertinent Beef. inquiry we would like to say that if the enemy have discovered the method of freezing meat disclosed in the following article, they may have enough food stored away to keep them for at least a decade. We are sure it will prove interesting to the general reader to know what cold storage can actually do when really pressed to it. This was first published in the Chicago Breeders' Gazette.

Coming at a time such as this, with threats of invasion, siege, of famine and distress, I think I can elaim to have helped in unearthing a discovery which will interest greatly the frozen meat trade. We now have undeniable proof that meat can be kept in a frozen state for no less than 18 years, and can then be honestly and openly guaranteed as good for human consumption. That is putting the findings in as bald a phraseology as possible.

In July a hindquarter of frozen beef was exhibited at Smithfield market, London, that had been shipped by John Cooke & Co., from their Redbank freezing works, Brisbane, Australia, in February, 1896, and sold by W. Weddell & Co., London, to Wills & Co., military contractors, Malta, who retained it in cold storage there for experimental purposes until the Government of Britain took over their warehouse some months ago, when the hind quarter was sent on to London. The meat, although somewhat faded in outward appearance, was, on inspection in Smithfield, found to be still sweet and sound and "thad lost but little if any of its nutriment."

The system of refrigeration employed during the period was the brine circulation process, and the cold store was insulated with flake charcoal.

The beef came to London from T. G. Rawlings, food inspector to the British navy at Malta, who wished his friend Dr. T. Dunlop Young, the veterinary inspector to the Corporation of London, to go into the scientific and the practical side of "long-distance" and long-period refrigeration. The historic hindquarter has been kept at the

central market's cold stores in Smithfield and I have just received the official findings of a scientific test undertaken by Dr. S. Rideal, the food inspector to the London Meat Importers' Association. He has put on record the following statements:

"From my detailed examinations of the hind quarter of Queensland beef which was killed in 1896 and which has now been in cold store for 18 years, I am of opinion that the beef has undergone remarkably little change during that period. The analyses of the beef tea extracts obtained from this meat are very similar to those obtained from fresh English beef, and from Queensland meat killed in 1897 and examined by me at that time after having been hard-frozen for about four months. This is an indication that the dietetic value of the meat has not been impaired by time. The fibres under a microscopic examination of samples taken from the buttock and rump appeared normal, with a few distorted filaments, such as occur in ordinary fresh meat. Statements to the effect that meat under cold storage for a period longer than a year brings about changes which render it unfit for consumption have been disproved by this investigation.

"The prolonged effect of cold storage has increased the extractive figures (that is, the readiness with which beef gives up its essence in beef tea), but there is no indication of putrefaction taking place at this low temperature and the meat was consumed, even after 18 years, without any signs of dietetic disturbance."

Statements as these, grave and weighty, must prove to Americans interested in the meat trade the immense possibilities of developing an industry such as this. One point I noticed had not been touched upon, and that was the temperature in which this piece of beef had been kept. Weddell & Co. tell me that to insure the results produced by this investigation the piece of beef had been kept at practically the same temperature during the whole period of 18 years. The average age of frozen meat sold in London is two or three months and the oldest frozen meat hitherto known to the trade was said to be 24 months; yet this hindquarter of beef, as soon as it was cut through, was found to be perfectly sound As in the case of other frozen and sweet. beef, it had lost its outward bloom, but one reason why it had maintained its full nutri-tive merits was that it had not been kept in a chamber in and out of which old and new portions of beef were passing.

The British frozen meat trade has been immensely delighted with Dr. Rideal's findings. With war about us, we see immense possibilities in conserving and insuring our meat supplies for years. I give to you in America this the first insight into what might in the fullness of time prove a mighty industry.

George T. Burr.ws. Middlesex Co., England. The following is of interest enough surely to be sent wherever the Public Health Journal carries its Vacant Land message. It is from the and the Poor. Health Bulletin, issued by the Department of Public

Health, Toronto.

Have You a Vacant Lot?

The above was the heading of an advertisement inserted in the Toronto papers some few weeks ago by the Assessment Department, inviting owners of vacant land to offer their property to be used for gardening by the poor.

Much Vacant Land in City.

There is enough vacant land—exclusive of unused back yards—lying idle in the City of Toronto to-day to provide sustenance for all the unemployed and poor, if such land were only properly cultivated and used.

Last month the Assessment Department made a most conservative estimate of the vacant land in the city, putting the figure at 1,180,000 feet frontage, or 2,700 acres within the present city limits. Of this the city owns 15.31 acres (tax sale lands). The total 2,700 acres lie in all quarters of the city, and hence is easily accessible by residents in any ward. There is approximately from five to six times as much land—over 10,000 acres—lying idle around the outside beyond the limits.

We Must Produce More.

Attention has already been drawn in the press to the fact that it will be "up to" Canada and the United States to provide food for the millions in Europe who will require it next year. We learn that the Western Provinces are sowing a greater acreage of wheat than ever before.

In view of these facts, can we in Toronto afford to allow this huge area of land to lie vacant, when every foot should be utilized? Should we not take steps to see that every vacant lot should be put under some crop, however humble or small?

Little Interest Shown.

With regard to the advertisement mentioned at the beginning of this article, it was most disappointing to find that nine insertions of it only produced seventeen responses, and of these nine were from outside the city limits.

The total land offered was 3.54 acres inside and 4.51 acres outside, the city, a total of 8.05 acres! The most generous offer was from a Scarboro Township farmer, who was willing to lease three acres of tillable land, with use of a four-roomed frame house, for one year for one cent a month per acre.

It seems regrettable that the lethargy in the matter was so pronounced among land owners, though of course the availability of their lands could only be decided by themselves. Then, too, many real estate men hope that the war will end before next summer, and hence do not want to tie their land up so far ahead.

If all this idle land were divided up into lots, leased out free or for a few cents to the unemployed, and put under vegetable crops, more than enough food could be raised next summer and fall to supply the wants of the 20,000 or more unemployed in the city.

Vegetable Yield.

The Ontario Department of Agriculture gives as the average yield per acre of the common vegetables and fruits for the Tornoto district the following figures: Potatoes, 300-400 bushels; cabbage, 6,000-7,000 heads; cauliflower, 6,000-7,000 heads; beets, 400-600 bushels; carrots, 400-600 bushels; onions, 600 bushels; parsnips, 400-600 bushels; tomatoes, 350-400 bushels; peas, 260 bushels pods; rhubarb, 1,000 doz. bunches; asparagus, 850 doz. bunches.

Fruit Yield.

Good average fruit yields per acre: Apples, 80-100 barrels; pears, 150 bushels; peaches, 500-600 11-quart baskets; grapes, three tons; gooseberries, 500 bushels; red currants, 400 11-quart baskets; black currants, 200 11-quart baskets; raspherries, 2.200 quarts; strawberries, 7,200 quarts. These are the average yields for ordinary years, but frequently there is an off season, when the yield is much less; for example, in an off season for apples the yield would be not more than 10 barrels.

Allowing 700 acres off for land that would be unproductive for gardening, unsuitable, or soon to be built upon, there are still 2,000 acres lying idle within the city limits, and 10,000 acres immediately adjoining the city, which have been unproductive for the last few years owing to it having been laid out in city lots. Should this be permitted to

continue!

Food for a City.

If these 2,000 acres in the city were divided among the most staple and necessary crops, in the proportion of 1,000 acres of potatoes, 300 each of cabbage and carrots, and 200 acres each of onions and tomatoes, it would yield over 3,500,000 bushels of potatoes, 1,950,000 heads of cabbage, 150,000 bushels of carrots, 120,000 bushels of onions and 70,000 bushels of tomatoes—tremendous figures, when seen in their aggregate.

Experts have figured that an average family of four adults (or two adults and three children) use in one year, at one serving a day, six bushels of potatoes, and two bushels each of carrots, onions and parsnips, with double the amount when two se vings is the rule. Even granting the larger amount, 12 bushels for four adults a year, food for almost 300,000 adults would a provided from the 1,000 acres under potatoes. Similarly, the acreage of carrots and onions would suply 75,000 adults with carrots for a year, and 60,000 with on ons. Striking the average, nearly 200,000 persons could be supplied daily with all three vegetables. Is it not worth making some effort to this great end?



IX.



### MARJORIE L. C. PICKTHALL

"'The Drift of Pinions' is exquisitely lyrical, with a flawless rhythm and melody..........This poet pays no heed to the headlines of to-day, nor to the rumours of to-morrow, but goes her way in the world of iris-buds and golden fern, hearing and seeing only the things that are most excellent. She possesses that historic imagination to which the world of yesterday is even more real than the thronging events of the present ...... It is impossible in comment or quotation to give an idea of the subtle beauty of execution, the ideal spirituality of conception, which make such poems as 'The Lamp of Poor Souls' and 'A Mother in Egypt' poetic achievements of the rarest kind ...... To those for whom poetry is a dwelling-place for all sweet sounds and harmonies, these poems will come as new and magic melodies, sung by one of the authentic fellowship. The singer's gifts are splendour and tenderness of color, sweetness of silvery phrase, and a true poet's unwavering belief in 'the subtle thing called spirit.' "-Jean Graham in Toronto Saturday Night.

BOUT fourteen years ago the attenter of the contributions of a seventeen- in Canadian literature.

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ent-

year-old girl to the Young People's Page in tion of many readers was attracted the Mail and Empire. It was manifest strongly to the remarkable characthat a genius of a rare order had appeared

The signature was "Marjorie L. C. Pickthall," and on enquiry it was found that her parents were English-the father, Mr. Arthur C. Pickthall, an electrical engineer -and that they had emigrated to Toronto in 1890, when their daughter was about seven years of age. It was also learned that she had been educated in the Bishop Strachan School on College street.

As Miss Marjorie Lowrey Christie Pickthall was born in London, England, the 14th of September, 1883, she achieved fame earlier in life than most poets. For a decade her poems and short stories have appeared in the periodicals of England, the United States and Canada; and in the autumn of 1913, the University Magazine, Montreal, and John Lane, the Bodley Head, issued a volume of her collected verse, entitled "A Drift of Pinions."

For once the reviewers and critics generally were of one opinion, that the work was the product of genius undefiled and radiant, dwelling in the realm of pure beauty and singing with perfect naturalness its divine message.

In 1913, Miss Pickthall was assistant librarian in Victoria College, but the close confinement not agreeing with her health, she resigned and went to England to visit relatives. At present she is much interested in grey knitting for the soldiers, and is doubtless in the midst of many experiences which cannot fail to influence her future work.

The well-known English writer, Marmaduke Pickthall, is a half-brother of her

Miss Pickthall is also gifted in pen-andink sketching and in the painting of small water-colors; and is very fond of animals. At one time a tame robin was her cherished pet.



### SWALLOWS

O little hearts, beat home, beat home, Here is no place to rest. Night darkens on the falling foam

And on the fading west.

O little wings, beat home, beat home. Love may no longer roam.

O, Love has touched the fields of wheat And I we has crowned the corn. And we must follow Love's white feet Through all the ways of morn. Through all the silver roads of air We pass and have no care.

The silver roads of Love are wide, O winds that turn, O stars that guide. Sweet are the ways that Love has trod Through the clear skies that reach to God. A place where wandering wings may sleep. But in the cliff-grass Love builds deep

### THE IMMORTAL

Beauty is still immortal in our eyes; When sways no more the spirit-haunted

When the wild grape shall build

No more her canopies,

When blows no more the noon-gray thistle When the last bell has lulled the white

flocks home,

When the last eve has stilled

The wandering wing and touched the dying

When the last moon burns low, and, spark by spark,

The little worlds die out along the dark,-

Beauty that rosed the moth-wing, touched the land

With clover-horns and delicate faint flowers.

Beauty that bade the showers

Beat on the violet's face.

Shall hold the eternal heavens within their place

And hear new stars come singing from God's hand.

### FROST SONG

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- Here where the bee slept and the orchis lifted
  - Her honeying pipes of pearl, her velvet lip,
- Only the swart leaves of the oak lie drifted In sombre fellowship.
- Here where the flame-weed set the lands alight,
- Lies the bleak apland, webbed and crowned with white
- Build high the logs, O Love, and in thine
- Let me believe the summer lingers late. We shall not miss her passive pageantries,
- We are not desolate, When on the sill, across the window bars, Kind winter flings her flowers and her stars.



### THE POOL

- Come with me, follow me, swift as a moth, Ere the wood-doves waken.
  - Lift the long leaves and look down, look down
  - Where the light is shaken,
  - Amber and brown,
- On the woven ivory roots of the reed, On a floating flower and a weft of weed And a feather of froth.
- Here in the night all wonders are,
- Lapped in the lift of the ripple's swing, A silver shell and a shaken star,
- And a white moth's wing.
- Here the young moon when the mists unclose
- Swims like the bud of a golden rose.
- I would live like an elf where the wild grapes cling,
- I would chase the thrush
- From the red rose-berries.

  All the day long I would laugh and swing
- With the black choke-cherries.

  I would shake the bees from the milkweed blooms.
- And cool, O cool,
- Night after night I would leap in the pool, And sleep with the fish in the roots of the rush.
- Clear, O clear my dreams should be made Of emerald light and amber shade, Of silver shallows and golden glooms.

Sweet, O sweet my dreams should be As the dark, sweet water enfolding me Safe as a blind shell under the sea.



### THE LAMP OF POOR SOULS

- In many English churches before the Reformation there was kept a little lamp continually burning, called the Lamp of Poor Souls. People were reminded thereby to pray for the souls of those dead whose kinsfolk were too poor to pay for prayers and masses.
- Above my head the shields are stained with rust,
  - The wind has taken his spoil, the moth his part;
- Dust of dead men beneath my knees, and dust,
  - Lord, in my heart.
- Lay Thou the hand of faith upon my fears; The priest has prayed, the silver bell has rung.
- But not for him. O unforgotten tears, He was so young!
- Shine, little lamp, nor let thy light grow dim.
  - Into what vast, dread dreams, what lonely lands,
- Into what griefs hath death delivered him, Far from my hands?
- Cradled is he, with half his prayers forgot.

  I cannot learn the level way he goes.
- He whom the harvest hath remembered not Sleeps with the rose.
- Shine, little lamp, fed with sweet oil of prayers.
  - Shine, little lamp, as God's own eyes may shine,
- When He treads softly down His starry stairs
  - And whispers, "Thou art Mine."
- Shine, little lamp, for love hath fed thy gleam.
  - Sleep, little soul, by God's own hands set
- Cling to His arms and sleep, and sleeping, dream.
  - And dreaming, look for me.

#### THE SHEPHERD BOY

When the red moon hangs over the fold, And the cypress shadow is rimmed with gold,

O little sheep. I have !ai-1 me low,
My face against the old earth's face,
Where one by one the white moths go,
And the brown bee has his sleeping place.
And then I have whispered, mother, hear,
For the owls are awake and the night is
near,

And whether I lay me near or far No lip shall kiss me, No eye shall miss me,

Saving the eye of a cold white star.

And the old brown woman answers mild, Rest you safe on my heart, O child. Many a shepherd, many a king, I fold them safe from their sorrowing. Gweniver's heart is bound with dust, Tristram dreams of the dappled doe, But the bugle moulders, the blade is rust; Stilled are the trumpets of Jericho, And the tired men sleep by the walls of

Little and lonely, Knowing me only, Shall I not comfort you, shepherd boy?

When the wind wakes in the apple tree,
And the shy hare feeds on the wild fern
stem,

I say my prayers to the Trinity,—
The prayers that are three and the charms
that are seven

To the angels guarding the towers of heaven,—

And I lay my head on her raiment's hem, Where the young grass darkens the strawberry star,

Where the iris buds and the bellworts are. All night I hear her breath go by Under the arch of the empty sky. All night her heart beats under my head, And I lie as still as the ancient dead, Wayne as the young lambs there with the

Warm as the young lambs there with the sheep.
I and no other

Close to my Mother, Fold my hands in her hands, and sleep.

### THE BRIDEGROOM OF CANA

"There was a marriage in Cana of Galilee ...... And both Jesus was called and His disciples, to the marriage."

Veil thine eyes, O beloved, my spouse, Turn them away, Lest in their light my life withdrawn Dies as a star, as a star in the day, As a dream in the dawn.

Slenderly hang the olive leaves
Sighing apart;
The rose and silver doves in the eaves
With a murmur of music bind our house.
Honey and wine in thy words are stored,
Thy lips are bright as the edge of a sword
That hath found my heart,
That hath found my heart.

Sweet, I have waked from a dream of thee, And of Him.

He who came when the songs were done. From the net of thy smiles my heart went free

And the golden lure of thy love grew dim.
I turned to them asking, "Who is He,
Royal and sad, who comes to the feast
And sits Him down in the place of the
least?"

And they said, "He is Jesus, the carpenter's son."

Hear how my harp on a single string Murmurs of love.

Down in the fields the thrushes sing And the lark is lost in the light above, Lost in the infinite, glowing whole,

As I in thy soul, As I in thy soul.

Love, I am fain for thy glowing grace As the pool for the star, as the rain for the rill.

Turn to me, trust to me, mirror me
As the star in the pool, as the cloud in the
sea.

Love, I looked awhile in His face And was still.

The shaft of the dawn strikes clear and sharp;

Hush, my harp.

Hush, my harp, for the day is begun, And the lifting, shimmering flight of the swallow Breaks in a curve on the brink of morn, Over the sycamores, over the corn.

Cling to me, cleave to me, prison me

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As the mote in the flame, as the shell in the sea,

For the winds of the dawn say, "Follow, follow

Jesus Bar-Joseph, the carpenter's son."



### A MOTHER IN EGYPT.

"About midnight will I go out into the midst of Egypt; and all the firstborn in the land of Egypt shall die, from the firstborn of Pharaoh that sitteth upon the throne, even unto the firstborn of the maid-servant that is behind the mill."

Is the noise of grief in the palace over the river

For this silent one at my side?

There came a hush in the night, and he rose with his hands a-quiver

Like lotus petals adrift, on the swing of the tide.

O small soft hands, the day groweth old for sleeping!

O small still feet, rise up, for the hour is late!

Rise up, my son, for I hear them mourning and weeping

In the temple down by the gate.

Hushed is the face that was wont to brighten with laughter

When I sang at the mill,

And silence unbroken shall greet the sorrowful dawns hereafter,

The house shall be still.

Voice after voice takes up the burden of wailing,-

Do you heed, do you hear? in the highpriest's house by the wall;

But mine is the grief, and their sorrow is all unavailing.

'Will he wake at their call?

Something I saw of the broad, dim wings half folding
The passionless brow.

Something I saw of the sword the shadowy hands were holding,—

What matters it now?

I held you close, dear face, as I knelt and harkened

To the wind that cried last night like a soul in sin,

When the broad, bright stars dropped down and the soft sky darkened, And the Presence moved therein.

I have heard men' speak in the marketplace of the city,

Low voiced, in a breath,

Of a god who is stronger than ours, and who knows not changing nor pity, Whose anger is death.

Nothing I know of the lords of the outland races,

But Amun is gentle and Hathor the Mother is mild,

And who would descend from the light of the peaceful places To war on a child?

Yet here he lies, with a searlet pomegranate petal

Blown down on his cheek.

The slow sun sinks to the sand like a shield of some burnished metal,

But he does not speak.

I have called, I have sung, but he neither will hear nor waken;

So lightly, so whitely he lies in the curve of my arm,

Like a feather let fall from the bird that the arrow hath taken.

Who could see him, and harm?

"The swallow flies home to her sleep in the eaves of the altar,

And the crane to her nest,"

So do we sing o'er the mill, and why, ak, why should I falter,

Since he goes to his rest?

Does he play in their flowers as he played among these with his mother?

Do the gods smile downward and love him and give him their care?

Guard him well, O ye gods, till I come; lest the wrath of that Other Should reach to him there!



### A MEDICAL DICTIONARY.

NCE upon a time we found ourself studying medicine, and we discovered that medical terms were a source of great annoyance, and to be reasonably happy we were obliged to have a dictionary at our elbow. Later on we were privileged to lecture to a class of nurses on Anatomy and Physiology, and we found again that medical terms are the bugbear of pupil nurses. Even graduate nurses find that the medical terms are extremely elusive and a constant companionship has to be kept up. Now a nurse does not need to wade through a dictionary designed for medical students. That might lead her into paths more intricate than she might care to travel. The volume we have before us is one designed especially for nurses, and meets the requirements splendidly. The compiler of the Dictionary states: "The purpose of this book is to provide a medical dictionary containing a detailed definition of words and terms of special importance to nurses. To do this without making the book larger than seemed advisable, it was necessary to omit some words usually included in medical dictionaries, but those omitted are ones which nurses are not likely to look for, or which are similar to those contained in the book, and a number of prefixes and suffixes are inserted, both in alphabetical order and in a table on page 272, which will facilitate the understanding of words omitted because of their similarity to those included." The appendices are full of very useful information and are well gotten up. The book has a few illustrations, the better

to explain certain physical facts and phenomena. This is as useful a volume for nurses and, in fact, for the general reader of medical and quasi-medical subjects as will be found anywhere.

A MEDICAL DICTIONARY FOR NURSES—By Amy E. Pope—G. P. Putnam's Sons, New York and London —1914—Price, \$1.00.

### \$ \$ \$

### POVERTY AND TUBERCULOSIS.

B. is no respecter of persons. He enters the mansions of the rich and the great as well as the homes of the poor and humble. Nevertheless there is a great difference. The rich man has The poor resources for the great fight. man is doomed unless some outside help he available. Poverty and Tuberculosis! how often associated. Poverty means overcrowding, bad air and insufficient food. Often it's the bread winner who is stricken first. Shall the family be broken up? The New York Association for Improving the Condition of the Poor has completed two years of the Home Hospital experiment. The question which it sets out to answer in the course of the experiment were:

1. Is it possible to treat families in which one or more members are afflicted with tuberculosis by keeping the family together, in their own individual home, without danger to other members of the family?

2. Do the results of treating patients in their own homes, under satisfactory conditions of living, with adequate medical supervision, compare favorably with results secured by removing the patient from his home and treating him in a sanatorium or other special institution for tuberculosis?

3. In the case of a family in which there is combined tuberculosis and poverty, which costs more; to treat a family as a unit as is done in the Home Hospital experiment, or to break up the family, as is done under other methods of treating families with tuberculosis?

This report endeavors to state the results of two years of serious effort to answer these questions. From these pages it would appear that there is evidence to show that the experiment thus far has been a success. Everybody ought to read this report. It is replete with information and beautifully illustrated.

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in onTWO YEARS OF THE HOME HOSPITAL EXPERIMENT — Methods, results and comparative cost of the combined Home and Hospital Treatment of Families made dependent by Tuberculosis—1912-14—New York Association for Improving the Condition of the Poor, 105 East 22nd Stret, New York.

### \$ \$ \$

### FIFTH ANNUAL REPORT.

THAT the conservation movement has made distinct progress during the past year is clearly indicated in the "Fifth Annual Report" of the Commission of Conservation, which has just been issued.

In his annual address, the Chairman of the Commission, Hon. Clifford Sifton, covered the Commission's activities with respect to waters and water-powers, minerals, public health, agriculture, fisheries and fur-bearing animals and forests, indicating clearly and succintly a number of the problems that had been grappled with and the advances that had been made in their solution.

With respect to water-powers, lengthy reports are presented, covering the work in connection with the water-power surveys carried out in Western Canada. Two volumes will be issued later, giving the results of these surveys and will prove of

great value to those who are interested in the development of the water-powers of Canada.

The Commission's Committee on Minerals has been further strengthened by selecting as chairman, Dr. Frank D. Adams, of McGill University. Dr. Adams is an outstanding authority on the minerals of Canada, and his assistance will be of great value to the Commission. The report contains an excellent review by Mr. W. J. Dick, mining engineer of the Commission, on the "Importance of Bore-hole Records and the Capping of Gas Wells."

Several aspects of the problems of publie health are dealt with in the report by well-known authorities. Dr. Hodgetts, in a brief address, summarizes the work of the Committee on Public Health, and, in addition, presents reports on such vital problems as "Infant Mortality," "First Aid to the Injured," and the work of the City-Planning Conferences held in Chicago and Boston in 1913. Mr. G. Frank Beer, president of the Toronto Housing Company, develops at some length the housing and city-planning question in Canada, with especial reference to the work of the Toronto Housing Company, and Col. J. H. Burland outlines the legislative requirements for town-planning.

The work of the Committee on Lands is described by Mr. F. C. Nunnick, the Commission's agriculturist, who pays especial attention to the progress of the experiments with the growing of alfalfa in Quebec. Mr. Nunnick also describes in detail the Commission's "Agricultural Survey" for 1913, showing in concise form the farming conditions in the several provinces as ascertained by the Committee's investigators. Dr. James W. Robertson and Mr. John Fixter describe the work of the illustration farms of the Commission.

Mr. J. Walter Jones follows in detail the progress in fur-farming in Canada during the past year. The work of the Committee on Fisheries was confined, during 1913, chiefly to the development of the oyster industry. Hon. A. E. Arsenault describes the new method of leasing oyster beds in Prince Edward Island. This method was advocated by the Commission two years ago, and will do much to regenerate the oyster industry in the Maritime Provinces. An exceedingly interesting paper on the

"Protection of Migratory Birds" is given by a leading American authority, Mr. W. S. Haskell, who urges Canada to join with the United States in providing sanctuaries for these birds.

Considerable advance has been made in the conservation of forests during the year. The Commission has co-operated with the Board of Railway Commissioners and the several Provincial and Federal forest services concerning the prevention of forest fires, with the result that much has been done to prevent forest fires along railway lines, especially in Western Canada. In addition to the report of the chief forester, Mr. Clyde Leavitt, there are addresses on forestry by Dr. B. E. Fernow and Mr. R. H. Campbell.

The report contains a number of splendid illustrations and gives in concise form much information that is of value to all Canadians interested in the conservation of our natural resources.

REPORT OF THE FIFTH ANNUAL MEETING, COMMISSION OF CON-

SERVATION, CANADA—Held at Ottawa, Jan. 20-21, 1914—The Bryant Press, Ltd., Toronto.

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UST to-day there came to us the Fourteenth Annual Report of the Canadian Association for the Prevention of Tuberculosis, compiled by Dr. George D. Porter, the Secretary. We shall deal with the report more in detail next month, but we are taking occasion to thank Dr. Porter for giving us permission to use the illustration of Xmas stamps which we have as a Frontispiece to this issue. The report is some fifty pages larger than last year's and there are some very excellent papers therein contained. We may wish to pass on to our readers during 1915 a few of these. During this terrible war year, it is to be hoped that this army of sufferers from Tuberculosis may not be forgotten but that the next report may show a still further advance.

### **Books Received**

The following books have ben received, and the courtesy of the publishers in sending them is hereby acknowledged. Reviews will be made of these volumes from time to time:—

- A MEDICAL DICTIONARY FOR NURSES—Giving the Definition, Pronounciation and Derivation of Terms used in Medicine, together with Supplementary Tables of Weights, Measures, Chemical Symbols, etc., arranged with special reference to use by Nurses—By Amy E. Pope, Graduate of the School of Nursing of the Presbyterian Hospital in the City of New York, Author of "Essentials of Dietetics," "Practical Nursing," etc—G. P. Putnam's Sons, New York and London—The Knickerbocker Press—1914—Price, \$1.00.
- REPORT OF THE FIFTH ANNUAL MEETING, COMMISSION OF CON-SERVATION, CANADA—Held at Ottawa, Jan. 20-21, 1914—The Bryant Press, Limited, Toronto.
- TWO YEARS OF THE HOME HOSPITAL EXPERIMENT—Methods, Results and Comparative Cost of the Combined Home and Hospital Treatment of Families made Dependent by Tuberculosis—1912-14—New York Association for Improving the Condition of the Poor, 105 East 22nd Street, New York—Publication No. 84.
- FOURTEENTH ANNUAL REPORT, THE CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS—With Transactions of the Annual Meeting held in Halifax, N.S., March 12th and 13th, 1914—Compiled by Dr. George D. Porter, Secretary.



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### A LIST OF NAMES

• HE list of names printed in this section possesses a very deep interest for Canadians. These are the members of the medical profession who are with the First Canadian Expeditionary Force. Whatever may be said about the percentage of Canadians who joined the other arms of the contingent this much is true of this list of names. The names belong to Canadian practitioners who from Atlantic to Pacific have dropped their work and have given their services to the King and the Empire. These doctors were educated at Canadian institutions, graduated from Canadian universities, and have licenses to practice from Canadian Provinces. They are going out upon a humane errand, the forerunners of many others, who have volunteered for service when needed. Moreover this is the first time Canadian Medical Officers have gone forth detailed for duty to just such units as these-the field ambulances upon the firing line and the hospitals upon the lines of communication, will all fit into a tactical medical scheme. This list of names is interesting now. It will be doubly so when the contingent arrives at the field of battle.

The quartermasters of the various units are not medical men. They are the guardians of the stuff. What's in a list of names? Often the most fascinating study in the whole world.

### No. 1 FIELD AMBULANCE.

Officer Commanding......Lieut.-Colonel A. E. Ross.

Major R. P. Wright
Captain J. L. Duval

R. M. Gorssline
R. H. McGibbon
R. C. G. Geggie
G. P. Howlett
C. J. Boyce
E. L. Stone

### No. 2 FIELD AMBULANCE.

Officer Commanding	.LieutColonel	D. V	V. McPherson
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Major D. B. Bentley

E. B. Hardy

A. E. Snell

Captain G. Musson

J. J. Fraser W. A. Burgess T. H. McKillip P. G. Brown 66

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### No. 3 FIELD AMBULANCE.

Officer	Commanding	Lieut	-Colonal	W T.	Watt
Onicer	Commanding.	Little H.L.	Coloner	W . 14.	VV 2LLL.

Major J. N. Gunn.

C. P. Templeton Captain E. M. Vesey K. D. Panton

6.6

F. C. Bell

6.6 S. A. Smith 6.6

P. G. Bell 6.6

J. D. McQueen 

### CLEARING HOSPITAL.

### Officer Commanding......Lieut.-Colonel F. S. L. Ford.

Major H. A. Chisholm "W. F. Mackinnon

Captain C. H. Dickson

R. M. MacDonald G. W. O. Dowsley

G. B. Peat

### No. 1 STATIONARY HOSPITAL.

### Officer Commanding......Lieut.-Colonel L. Drum.

Major S. H. McKee

" C. J. Williams Captain N. E. Munroe "S. H. Morris

-. Myrand

Captain J. C. W. Johnson

B. L. Neilly

### No. 2 STATIONARY HOSPITAL.

Officer Commanding......Lieut.-Colonel A. T. Shillington.

Major F. McK. Bell

" H. C. S. Elliott

Captain C. A. Young

" R. S. Pentecost

" J. H. Wood

" S. Fisher

### No. 1 GENERAL HOSPITAL.

Officer Commanding......Lieut.-Colonel M. Maclaren.

" F. C. Finley

" K. Cameron

Major C. F. Wyld

" R. P. Campbell

" F. L. Vaux

" E. A. Lebel

" C. E. Doherty

Captain A. C. Rankin

" J. Fyshe

" J. G. Hunt

" T. A. Lomer

R. Wilson

" McK. Forbes

S. A. Ramsey

" C. H. Robson

" A. W. M. Ellis

" J. T. Hill

" G. Shanks

" G. Corbett

Dental Surgeon......A. G. Hassard.

### No. 2 GENERAL HOSPITAL.

Officer Commanding......Lieut.-Colonel J. W. Bridges.

" R. D. Rudolph

" W. A. Scott

Major J. T. Clark

R. L. Gardner P. Goldsmith C. W. Gorrell Captain G. R. Philp -. McKay 66 C. E. C. Cole P. R. Menzies J. Morgan 16 J. C. Calhoun 44 W. Bethune 66 N. V. Leslie 6.6 W. H. Tytler . . S. Ellis F. S. Burke W. L. C. McBeth N. McLeod 6.6 W. P. Dillon



### A CLEARING HOSPITAL

FERE is an outline of the work of a British Clearing Hospital, established at a small village at the rear of the fighting lines on the Aisne. When first established it had five medical officers and the help of a French lady who had some training in nursing. Its organization steadily improved, and when in full swing it had five special reserve medical officers, or civil surgeons, including a bacteriologist and three Red Cross nurses. The village church was used as a reception hospital, and the cases as received from the front by motor ambulances or lorries, were sorted into bad, sitting, and sick, which were placed in different parts of the church. The village hospital, of two wards, already properly equipped with beds and bedding, was taken over and used for bad cases. Four houses and certain convenient outbuildings were also taken over and fitted up with beds and other equipment obtained from neighboring country houses. Altogether fairly adequate provision was made for between 200 and 300 wounded and sick. During the first week nearly 4,000 wounded—British, French, and German-came down. The motor ambulances (Wolseley's) were of very good pattern, and were used for bringing down the wounded to the village, and also for transporting them to the rail-head; in some cases they were used for taking serious cases to Paris direct. The ambulances held four lying down, and went to Paris in charge of a medical officer, but as the roads were bad a train was preferred where one could be obtained, as was usually the case later on. A rough rule was made that in cases of wounds in the head and chest, also severe wounds of the legs, the patient should not be moved if conditions permitted his detention, as such cases bore the journey badly and did much better in the village.

When the British force removed from the region, the clearing hospital was ready to move also, and its departure was hastened by the fact that one afternoon it was shelled for several hours, most of the shells being apparently directed on the church, which, as has been said, was being used for the reception

of wounded when first brought down.

At this time, in addition to the ordinary wounded, the hospital had charge of seven women who had been hit while attending the wounded in neighboring villages. One of these women, who had suffered a severe shell wound of the skull, exposing the brain, died. In another case it was necessary to amputate the foot; in a third a rifle bullet had entered in the back to the right of the vertebral column, and had probably damaged the ureter; the patient developed signs of pelvic peritonitis, but it was found possible to move her to the ambul-

ance train, and it is believed that she eventually did well.

The general line of treatment followed at the front and at the hospital was the application of iodine to the skin, followed by dry dressings. Other antiseptics than iodine were not generally used; instruments were boiled. Most of the cases in which amputation was necessary did well, but in some, where the men had lain out long before they were brought to the field ambulance and hospital, malignant oedema had set in and amputation proved useless. There were few abdominal injuries; they did badly. The hospital had the services of a bacteriologist, whose assistance was very valuable, particularly in the detection of typhoid fever, of which some 30 cases, chiefly from the British forces, were admitted. After the hospital had been established for some time, injections of antitetanus serum became the rule. At the clearing hospitals in the north of France all the wounded, we are informed, are receiving an injetion of antitetanic serum as a routine prophylactic measure. A German ambulance, very well fitted up and containing dressings and drugs, was brought into the village, and its supplies utilized to supplement those already available. duties undertaken by the clearing hospital was medical attendance on the ordinary inhabitants of the village, who numbered about 200. A civil surgeon was told off for this duty, and during part of the time had the assistance of a German medical officer who had been taken prisoner.



### DISPOSAL OF EXCRETA IN THE FIELD

HE LANCET of October 3rd reports a new method of disposing of excreta in camp when they cannot be put on the land, a new method which prevents nuisance and, once it is started, costs nothing for running expenses as it uses the products of the destructive distillation of the excreta to supply the heat for destructively distilling the next charge given to the apparatus. This method has been evolved by Dr. Myer Coplans and Mr. James Menzies. It is not stated how the excreta are conveyed to the converter, a vertical cylinder, into the top of which they are poured. This cylinder has several horizontal partitions, dividing it practically into floors. The exercta lodging on the upper "floor" are broken up by a revolving comb, and then gravitate downward from "floor" to "floor," exposed all the time to a high temperature; by the time the bottom of the cylinder is reached there is only some carbon left, the rest being volatilized off and passing through a condenser to a chamber where are deposited (1) a heavy ammoniacal liquor, (2) a layer of oil, (3) gaseous products. These last are piped to the burner which supplies heat to the converter, the oil is used to run the motor and the ammoniacal liquor is of value as an insecticide, against flies, and an antiseptic against B. typhosus. A very clever system, almost incredibly efficient if it also deals with the urine, but it is stated to be installed and in working order at Wimbledon, and the Government are said to have ordered several plants for use on the Continent. Manchester has for some time been recovering the soap out of its sewage, but this is an astonishingly great farther advance in sewage disposal.

### The Sanitary Inspectors' Association of Western Canada

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### LIGHT AND VENTILATION AS FACTORS IN PUBLIC HEALTH WORK

By THOS. WATSON, Royal Sanitary Institute

Provincial Sanitary Inspector, Saskatchewan

Read before the Second Annual Meeting of the Sanitary Inspectors' Association of Western Canada, Winnipeg, Man.

N common with all other sciences, sanitary science, hygiene or preventive medicine, has made remarkable progress during the past two or three decades of time. Fundamental changes of even a revolutionary character have occurred in the practice or treatment of many of the objects with which sanitary science has to deal.

Public Health work is a work of prevention, the object of which is to conserve the health of the people, by utilizing every element and means which sanitary science proves to be effective. The definition of hygiene, as given by the late Professor Parkes, is perhaps the most apt and comprehensive description we have of what is meant by prevention, "it is a science which aims at rendering growth more perfect, decay less rapid, life more vigorous and death more remote." other agents play a more important part in the preservation of the public health than light and ventilation, and for a long period of time no two natural agents were more disregarded as having any virtue as a means to be employed in the amelioration of conditions for the benefit of mankind.

A retrospect of the past, looking to the meagre provisions for either light or ventilation, reveals to us how little use was made of them, as ready and natural forces

to employ as preservers of health and factors of comfort. Indeed at this stage of civilization, it almost seems as if they were purposely ignored as unfitted for any good purpose to be applied in the art of living, or of work. Both light and air are free gifts of the all-wise Creator, and we are surprised on looking back to times not very remote, when they were considered objects to be avoided by using every means to shut them out from the homes, workshops and places of worship of our fathers. Some of us can remember vividly with what care the "barring of the door" was attended to in the time of our school days, and with not less attention were the windows, both externally and internally, protected from injury, to the complete shutting out of light, and the almost entire possibility of ventilation, so that the supposed danger from the night air might be excluded. It is with wonder we now look back at the meagre provisions which were made to obtain natural light for dwellings, at a time, too, when artificial means of illumination were by no means good. Ventilation was even more disregarded. We must make some allowance for the times to which we refer, as the homes were then mere places of refuge, and the shutters were used as a means of defence to protect the families against marauders and night prowlers.

On closer inspection of the internal domestic arrangements we cannot admit this allowance as any apology, because we find the sleeping places chiefly in recessed positions, or in cupboards, or at best in bedsteads becurtained and canopied so as to impede the free circulation of air and the admission of light.

Is not history repeating itself to some extent in this respect, in the apartment houses of modern times? With all our knowledge of the value of light and ventilation we find conditions of healthy living subordinated to avarice, and ornamental mantels with bedsteads on the reverse side taking the places of airy bedrooms.

Although sanitation, like many other arts and sciences, seemed to have fallen into disuse for many centuries, still there were many spasmodic attempts made to arrest epidemics of disease and to remedy conditions thought to be dangerous.

Until comparatively recent times, almost within the memory of those living, none of the modern nations gave much heed to the work of prevention of disease. Like most national, and we might say rational, reforms, the process was a slow one, left pretty much to the efforts of individuals, who were looked upon as sentimental theorists, if not faddists.

Such men as John Howard, whose work on behalf of the inmates of prisons in England, Dr.'s Guy and Bell, as persistent advocates for the employment of sanitary measures against conditions of filth, overcrowding and disease, and one or two German philanthropists, did more to awaken the authorities to a sense of their responsibility for the people's welfare than any concentrated thought or enquiry into the cause and effect of the existing insanitary conditions by the legislators of by-gone times.

Sanitation seeks to enlist all agents for the prevention of disease and death and those we are considering are among the most effective.

We are only beginning to realize the beneficial virtues of all natural forces, and their superiority over mechanical or artificial ones, as agents in the preservation of health and life.

Light and air are now recognized as real active aids in the work of prevention,

indeed they are the initial forces we use as the essential groundwork, on which to build most of our practical schemes of preventive work. In every branch of the work of sanitary and health officers they are the chief factors used. Take some of the simpler items with which we have to deal, and either light or ventilation, or both, are the fundamental basis on which they rest. This is proof that their worth is now recognized as a real factor in the work of prevention. The dwellings and workshops of the people are the chief centres on which we bestow our first attention, and we then apply our scrutiny to the conveniences necessary as requisite in such places. Whereas in bygone times any place, cave, cellar or erection having an apology for a roof, was allowed as living quarters, no matter whether natural light could be obtained and where ventilation was next to impossible, we have now laws prohibiting certain places unless both are provided to a minimum extent required. Much more has been done for our places of work than for our homes, and the conditions now enforced in factories and workshops have been primarily the compulsory provisions for light and ventilation.

The great improvements brought about in the construction, lighting, ventilating and conveniences as required in workshops, bakeries, factories and indeed in all places where persons are employed have been the means of reducing the death rate per 1,000 among employees from 30 to 17 during a period of 25 years, of rendering the operatives more vigorous, and of making the daily routine of toil a pleasure instead of pain. In this regard sanitary science has proven that care for the health of the employee is an asset to be taken account of on the credit side of the balance sheet. It is admitted that the working hours of such operatives are passed under conditions far more healthful than are to be found in many of the homes.

There is no branch of sanitary work in which light and ventilation are more employed, if we expect the best results, and there are no other agents we can persuade the average citizen to employ, if we take pains to point out and explain the beneficial returns to be gained by their use. Herein lies our opportunity as in-

spectors. If we fail to offer reasons proving that our contentions are both practical and profitable we lose respect as edu-

cators of the science of hygiene.

In these days of health bulletins, no other preventatives are so persistently advocated as being all effective to the enjoyment of health, and therefore to its preservation, both for day and night service, or during work, recreation and rest.

If we take the statement of Dr. Parkes as quoted we cannot employ any other agents more suited to achieve the aim that the science of sanitation seeks to bestow. Growth, without light and the inhalation of air in unpolluted purity, becomes not only stunted but sickly. Stop growth and decay begins, but if we encourage growth by the right use of these antidotes to decay, health will be prolonged and decay less rapid. Life more vigorous! nothing so invigorates and makes it good to be alive, than sunshine and air, light and ventilation, and so we consciously take the means best fitted to prolong that vitality of growth in life, and to retard that process which ends in what we call death.

Parasites are the greatest enemies we have to fight, as they in some shape or other are the cause and source of all disease. The best way to prevent such foes gaining a foothold is by taking advantage of the agents we are considering, for light and ventilation are inveterate foes to the formation of fungoid growths which are foreign to true and healthy life.

Never before, as far as history records, has more knowledge of the laws of health been available, or the means to sustain it been so advanced as at the present time, and to no agents are scientists directing the masses of humanity, as preservers, sustainers and even having curative functions more than light and ventilation.

It is not only in the higher or technical branches of public health work that these are factors of prevention, but in the most elementary and seemingly trivial matters with which we as inspectors have to deal. All animal and vegetable wastes are productive of disease under certain conditions, when organic change is taking place, and the care, system and disposal of such wastes is not the least important of our duties.

If we take advantage of light and ventilation in the process of sewage disposal; in the carriage and removal of house drainage; in the selection of sites for our dwellings, etc., is it less necessary to provide for the same in the arrangement and construction of that most abominable and seemingly irremediable contrivance, the common privy? Even this can be made sanitary if provision is made for the removal of effluvia by continuous change of air.

We might enlarge considerably on the methods and systems wherein these factors are our best auxiliaries, but the limit of time forbids, only we cannot avoid mentioning how germicidal are the effects of light and ventilation as disinfectors.

Provision for light ensures means for ventilation, therefore it is more light and fuller that we want.



### OBITUARY.

### Frederick J. Johnson.

We regret to have to announce the death on October 23rd of Mr. F. J. Johnson, A.R. San. I.

Mr. Johnson was a member of the Executive of our Association from its inception until July last, and took a very keen interest in all matters relating to his chosen profession of a Sanitary Inspector, and to the Public Health generally.

At the time of his death he occupied the position of Superintendent of Scavenging in the Winnipeg Health Department, having been specially chosen for that position some five years ago on account of his ability, the Medical Health Officer recognizing the importance in a large city of the person in charge of such an important work being thoroughly cognizant of the scientific principles on which this great public service is based.

Mr. Johnson was undoubtedly well qualified for the position and was considered an expert on all matters relating to the methods of storing, collecting and disposal of all waste matters, having made it his special study. Under his supervision a first-class scavenging system was built up. Winnipeg will find it difficult to secure a successor equally competent.

He fell a victim to that dread disease, cancer.

Those of our members who were acquainted with Mr. Johnson will long remember him for his thorough methods, but more for his kindly spirit and for the helpful hand which he was always ready to extend to any colleague needing assistance or advice. His death is a distinct loss to our Association.

1915

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THE PUBLIC HEALTH JOURNAL has reason to be pleased at the record of its activities during 1914. It has been a good year. In the pages of the Journal have appeared some very worthy articles—very worthy indeed. The number of friends of the Journal has grown steadily and there is good reason to suppose that each friend is seeking to interest another. What about 1915? It can safely be promised that the quality of the articles to appear will be the equal of if not superior to those which have already graced its pages. The Journal has invited two or three friends to become regular contributors in addition to those already favoring. The Journal plans another good year. It needs you to help make it so. Meanwhile it wishes you

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# HOW TO DEAL WITH THE FLY NUISANCE

House flies are now recognized as MOST SERIOUS CARRIERS OF THE GERMS OF CERTAIN DISEASES such as typhoid fever, tuberculosis, infantile diarrhœa, etc.

They infect themselves in filth and decaying substances, and by carrying the germs on their legs and bodies they pollute food, especially milk, with the germs of these and other diseases and of decay.

### NO FLY IS FREE FROM GERMS]

### THE BEST METHOD IS TO PREVENT THEIR BREEDING

House flies breed in decaying or decomposing vegetable and animal matter and excrement. THEY BREED CHIEFLY IN STABLE REFUSE. In cities this should be stored in dark fly-proof chambers or receptacles, and it should be REGULARLY REMOVED WITHIN SIX DAYS in the summer. Farm-yard manure should be regularly removed within the same time and either spread on the fields or stored at a distance of not less than quarter of a mile, the further the better, from a house or dwelling.

House flies breed in such decaying and fermenting matter as kitchen refuse and garbage. Garbage receptacles should be kept tightly covred.

ALL SUCH REFUSE SHOULD BE BURNT OR BURIED within a few days, BUT AT ONCE IF POSSIBLE. NO REFUSE SHOULD BE LEFT EXPOSED. If it cannot be disposed of at once it should be sprinkled with chloride of lime.

### FLIES IN HOUSES.

Windows and doors should be properly screened, especially those of the dining-room and kitchen. Milk and other food should be screened in the summer by covering it with muslin; fruit should be covered also.

Where they are used, especially in public places as hotels, etc., spittoons should be kept clean as there is very great danger of flies carrying the germs of consumption from unclean spittoons.

Flies should not be allowed to have access to the sick room, especially in the case of infectious

The faces of babies should be carefully screened with muslin.

FLIES MAY BE KILLED by means of a weak solution of formalin (40 per cent.) exposed in saucers in the rooms. This is made by adding a teaspoonful of formalin to a pint of water. The burning of pyrethrum in a room is also effective.

House flies indicate the presence of filth in the reighborhood or insanitary conditions.

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Open Tunglefoot slowly. In cool weather warm slightly. For best results place Tunglefoot on a chair near window at night. Lower all shades, leaving one at the Tunglefoot window raised about a foot. The early morning light attracts the flies to the Tunglefoot, where they are caught.



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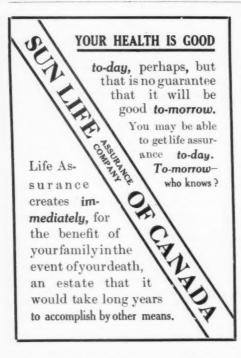


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## The Goose That Laid the Golden Eggs.

(Revised)

A Certain Man had a Goose which laid him a Golden Egg every day. A foolish friend advised him to kill the Goose and

realize at once on the future.

"No," said the Man, "that is not the proper way. I know a better." Thereupon he organized a company and issued stocks and bonds which he sold at a good round figure. Then he gave out the report that the Goose had quit laying. This enabled him to buy the stock back at a low figure. Then he gave out the report that the Goose was laying two Eggs a day. which enabled him again to sell the stock at a big advance. After he had repeated this process a number of times, he was so rich that he didn't care what the Goose laid or when. Accordingly, he invested his wealth in gilt-edge securities, journeyed abroad and went in for art.—Ellis O. Jones in Lippincott's.

## Too Well Prepared.

"My dear old fellow! What's the matter? The sea's like a duck pond!"

"I know, old boy—but I have taken six—different—remedies."—Punch.

#### Parallel Case.

"Oh, doctor, I have sent for you, certainly; still, I must confess that I have not the slightest faith in modern medical science"

"Well," said the doctor, "that doesn't matter in the least. You see, a mule has no faith in the veterinary surgeon, and yet the 'vet' will cure it all the same."—

Sacred Heart Review.

#### Conversation.

"Tell me about your aunt, old Mrs. Blank. She must be rather feeble now."

"We buried her last year," said the other.

"Buried her? Dear me! Is the old lady dead?"

"Yes, that's why we buried her."— Tid-Bits.

# The Metropolitan Life Insurance

wrote more Ordinary insurance in the United States and Canada in 1913 than any other company. The amount was \$230,000,000, which was an witten was \$18,275,895.

It furnishes Industrial life insurance to wage earners substantially at cost. It has in Canada almost 700,000 Industrial policies outstanding, which are held by workingmen.

In an attempt to lessen the death rate it has established a free nursing service, and in 1913 Metropolitan nurses made more than 1,127,000 visits to 175,757 sick Industrial policyholders, free of charge.

The Company has distributed millions of pamphlets giving valuable hints on the improvement of health conditions and the prevention of disease.

It has on deposit, with the Dominion Government and trustees, for the protection of Canadian policyholders, nearly sixteen-and-a-half million dollars of securities.

It paid in 1913, 167,017 policy claims, amounting to \$27,801,848.12.

\$447,829,229.16 Assets Capital and Surplus 35,584,901.65

Liabilities -412,244,327.51 (According to the report for 1913 filed with the New York State Department.)

# Life Insurance

1 Madison Avenue

New York City



# THE CENTRAL CANADA LOAN AND SAVINGS CO.

26 King St. East, Toronto.

Total Assets \$9,917,000.
Capital (sub.) \$2,500,000.
Capital (paid up) \$1,750,000.
Reserve Fund \$1,750,000.

Deposits received and debentures issued.

> President E. R. Wood

Vice-President H. C. Cox Vice-President G. A. Morrow

## DEATH IS CERTAIN

for all of us. The only uncertainty is when it may visit you. Life Insurance provides protection for your dependents by creating an immediate cash estate in the event of your death.

Last year this Company

Paid Death Claims of \$491,529.52

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Insurance Company

Special Terms and Rates to Total Abstainers.

Write for Booklet "Total Abstainers vs. Moderate Drinkers." It will interest you.

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## Our Language.

He—I'm smoking a terrible lot of eigars lately.

His Friend (with conviction)—You're right, if that's one of them.—Tid-Bits.

## Those Lawyers.

"Now, tell us," sternly demanded the young legal luminary whose brow overhung like the back of a snapping-turtle, addressing the cowering witness, "what was the weather, if any, upon the afternoon in question?"—Puck.

Faith is what a woman thinks she believes because she believes it.

A woman's worth may be more than she can extract from her husband's pockets.

## Tempus Fugit!

I placed my watch on a table;
"Twas wound to run till dawn.

Next morning, when I looked for it—
Wasn't going? Nay; 'twas gone!
—Judge.

#### Literally, Too.

The conversation had turned to the many men who had met success.

"There, for instance," said one man pointing down the street, "goes a man who began life in poverty, and now lives on the fat of the land."

McFee looked. "Yes, I know him," he replied. "He's an agent for an anti-fat concern."—Judge.

#### If the Boat Rocks.

"I'd come over and kiss you, only I'm afraid of upsetting the boat."

"I can swim, Herbert!"-London Opin-

### Accomplishments Required.

"Doctor," said the patient, "what's in this prescription?"

"Never mind," was the reply. "The pharmacist will understand."

"But are you sure I can find a pharmacist who understands Latin, shorthand and the drug business all at once?"—Washington Star.

# CONTINENTAL LIFE

Insurance Company HEAD OFFICE **TORONTO** 

"BROAD AS THE CONTINENT, STRONG AS THE EMPIRE."

¶ In this age of strenuous competition and rush for business the only safety for the business man lies in a

## GOOD LIFE INSURANCE POLICY

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GEORGE B. WOODS,

President and Managing-Director.

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Policy No. 6. 10 Pay't 25 Year Endowment, profits to increase sum assured. Premium, \$112.00. Amount, \$2000.00.

> \$2070.00 Amount increased at end of 5 years to 10 2150.00 15 2210.00 20 2300.00 25 2589.34

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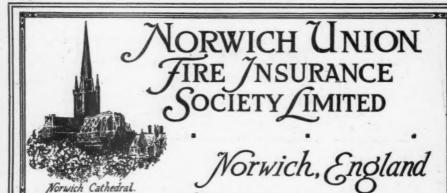
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